

ACCESS TO WATER

Rights, obligations and the Bangalore situation

Jenny T. Grönwall



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Cover: Girl in Dr Ambedkar Slum, Bangalore
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To Aditya
for inspiring me with the story of the starfish

Preface and acknowledgment

When I set out on this study in 2004, a court decision hailed as a landmark within my area of interest had just been reached in the Kerala High Court. The case, which concerned important questions of groundwater depletion and a landowner's rights to this water measured against the human right to drinking water, received major attention. However, the decision was modified by another court, then tried again and again. The Supreme Court undertook to deliver a verdict swiftly – the years have passed; no decision is in sight.

When I left India after my final field trip in February 2007, the long overdue Final Order from the Water Disputes Tribunal on the Kaveri River was to be delivered within days. It was soon appealed against by the parties involved. The Tribunal and the Supreme Court registered the complaints, then – nothing.

At the same time, a major jurisdictional reform of the city under study had just been enforced – on paper. At the stroke of a pen, Bangalore tripled in size geographically and the inhabitants in the metropolitan city as well as in the over 100 incorporated villages awaited instructions on voting for new accountable leaders. Almost one and a half years later they are still waiting.

India is a dynamic country, undergoing transitional changes with major effects and implications on issues of water, and related rights and obligations. Researching contemporary events means encountering unexpected results among what is established. This reflects the India of today: the climate of leading-edge technological development, business process outsourcing for large multi-national corporations. The consequent social, economic and cultural changes often clashes with the persistence of traditional practices.

In 2003, I visited Hyderabad in Andhra Pradesh for a workshop as a precursor to this study. The subsequent four field trips between 2004 and 2008 lasted for periods of two to five months each. Even from my second visit to India, it became apparent that every State displayed unique cultural, socio-economic and political features. They have often reached different levels of progress, and traditions and climate conditions are frequently incongruous. The initial plan – to make a comparative study over two States – was discarded: the sheer scale and diversity of the problems would be quite cumbersome. Construing one city alone was sufficient.

The broader insights I gained from the time spent in India (in total, a quarter of the PhD-period) and from observations collected in the multiple places visited were both beneficial and key to the claims made here. My perspective on law as an instrument is forever enriched.

This study would not have been successful without two women in Bangalore: Arati, with whom I could discuss every aspect of my study – her input, contacts and good spirit were absolutely essential – and Sumathi, who guided, translated and drove me everywhere – without the interest she took in my work and her broad knowledge, my efforts would have been much harder.

Professor M.K. Ramesh at NLSIU was the initial key to Bangalore, and Savitha S., Roopa Madhav, Rahul Singh, and personnel of the NLSIU library and the CEERA made my legal research a joy. I was shown the greatest hospitality as well as my own desk by Svaraj/Oxfam India, where L.C. Nagaraj deserves a particular mentioning. Salma Sadikha, Subhash Chandra, Manoj Rai, Ramesh Mukalla, M.S. Vani, P. Lakshapathi, Lawrence Surendra, Jeremy Berkhoff and Gunnar Jacks have all been very generous with their time and knowledge. Special thanks goes to people at the ALF and S. Vishwanath. Several others have also had a profound impact on the study.

I remain grateful to the Ramachandrans and the Davis family for opening their homes and showing me the art of domestic water management.

For their supervision and guidance, I owe a debt of gratitude to Jan Lundqvist who took me to Tema and India, Anna Jonsson (f. Blomqvist) who inspired and encouraged me, Julie Wilk who courageously took on the project at a later stage and especially Johan Hedrén who guided and supported myself and the study. Special thanks goes to Jonas Ebbesson whose feedback was invaluable to the completion of my study.

Current and former colleagues at Tema V in Linköping and Norrköping provided an eclectic, interdisciplinary and international background to this study, which meant a lot though I myself was infrequently present. I especially want to thank Karin and Mattias Hjerpe, Terése Sjömander Magnusson, Dana Cordell, Madde Johansson, Annika E. Nilsson, Charlotte Billgren and Anna Bratt, but also the inspiring people at Tema G and ever-helpful Ian Dickson. I am grateful to Tim Crosfield for his thorough language editing, and to Valli Noghin for the enlivened cover design.

The Nordic Environmental Legal Network conferences have given much and regular food for thought, and I've received a range of good advice from Diana Amnéus. David Langlet and Malin Christensson who read and discussed numerous drafts of my texts have been close friends and offered wise comments, support and laughter alike.

I also want to thank my parents, without whose love and backing I would not be where I am or who I am today, and my dear sister and brother for reminding me that the academic world is but a small piece of the universe.

Finally, to Aditya: I promise I will not write another doctoral thesis! Thank you for your great love, patience and chocolate. Our mutual interest in India and Bangalore will be further explored and enjoyed I am sure.

Stockholm in May, 2008.

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Abbreviations

ADB	Asian Development Bank
AIR	All India Reporter
Art	Article
AusAID	The Australian Government's overseas aid program
BBMP	<i>Bruhat Bangalore Mahanagara Palike</i> (Greater Bangalore Corporation)
BCC	Beneficiary Capital Contribution
BDA	Bangalore Development Authority
BMP	<i>Bangalore Mahanagara Palike</i> (Bangalore Municipality Corporation)
BMRDA	Bangalore Metropolitan Region Development Authority
BPL	Below Poverty Line
BWSSB	Bangalore Water Supply and Sewerage Board
C.E.	Common Era, secular alternative to Anno Domini (A.D.)
CGWB	Central Ground Water Board
Ch	Chapter
COHRE	Centre on Housing Rights and Evictions
CSE	Centre for Science and Environment
EC	European Community
EU	European Union
FAO	Food and Agriculture Organisation
GA	General Assembly
GBWASP	Greater Bangalore Water and Sanitation Project
GoI	Government of India
GoK	Government of Karnataka
ICESCR	International Covenant of Economic, Social and Cultural Rights, 1966
ICJ	International Court of Justice
ILA	International Law Association
IPCC	Intergovernmental Panel of Climate Change
IWRM	Integrated Water Resource Management
JBIC	Japan Bank of International Cooperation
KLT	Kerala Law Times
KUIDFC	Karnataka Urban Infrastructure Development Financial Corporation
lpcd	Litres per capita and day
MDGs	Millennium Development Goals
MLD	Million litres daily
MPN	Most probable number
O&M	Operation and maintenance
OECD	Organisation on Economic Co-operation and Development
para	Paragraph
PCB	Pollution Control Board
PIL	Public Interest Litigation
PIM	Participatory irrigation management
PPP	<i>here</i> : Purchasing power parity
PRI	<i>Panchayat Raj</i> institution
PWD	Public Works Department
Rs.	Indian Rupee, the national currency (internationally written as INR). Rs.100 converted to US\$ 2.52 and €1.60 in mid-April 2008.
RWH	Rainwater harvesting
SC	Supreme Court

Sec	Section
TMC	a thousand million cubic feet; 28,316,846,592 litres
TPA	the Transfer of Property Act, 1882
ULB	Urban Local Bodies
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
UNHCHR	UN Office of the High Commissioner on Human Rights
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organisation
WTO	World Trade Organisation
WTP	Willingness to pay
WUA	Water Users' Association

Legal terms, doctrines, and principles

<i>Case law</i>	Court decisions; the body of reported judicial opinions, especially in countries with a common-law system.
<i>Cuius est</i>	<i>Cuius est solum, eius est usque ad coelum et ad inferos</i> – to whomsoever the soil belongs he also owns it to the sky and down to the depths.
<i>De lege ferenda</i>	What the law ought to be.
<i>De lege lata</i>	The law as it stands.
<i>Dominium</i>	Full ownership.
<i>E contrario</i>	On the contrary.
Enjoy	To have the use or benefit of something.
Jurisdiction	Right or power to administer justice and apply laws and to exercise authority and administrative power. Also refers to the geographical extent of such rights.
<i>Obiter dictum</i>	A part of a judicial opinion that is merely a judge's observation and therefore not directly necessary in determining the specific issue brought before the court. It is not binding and does not establish new 'law', since it is not seen as an element of the judgment for the purpose of its <i>stare decisis</i> value.
<i>Precedent</i>	A court decision in the common-law system, establishing an authoritative principle or rule that lower courts and other judicial bodies are governed by when deciding subsequent cases with similar facts.
<i>Publici juris</i>	Of public right. Denotes a thing or a right that is open and exercisable by all persons, belongs to the entire community rather than to any private party. Water in the sea is the typical example.
<i>Ratio decidendi</i>	The binding grounds and reasons for a judge's decision on the facts of a particular case. Regarded as the authoritative opinion for the purpose of the judgment's precedential value under the doctrine of <i>stare decisis</i> .
<i>Res judicata</i>	A matter already adjudicated upon cannot be raised again.
Rule of law	<i>Here: Rechtsstaat.</i> A doctrinal principle according to which everyone is to obey the law, including governments. It prescribes constitutional governance, limited by laws and by fundamental principles of legality and established procedure. The power of the state is limited according to

the constitutional powers vested in it, in order to protect citizens from arbitrary exercise of authority.

<i>Sic utere</i>	<i>here:</i> good neighbourliness, use your property so as not to damage another's.
<i>Stare decisis</i>	The doctrine of precedents, according to which the binding part of a judgment (<i>ratio</i>) holds authoritative value and must be followed in subsequent cases with similar or identical facts.
<i>Usufruct</i>	The right to use and enjoy the 'fruits' of something not one's own, <i>i.e.</i> , belonging to another, as long as the property and its substance is not damaged, impaired or altered.
<i>Usufructuary</i>	One that holds property by usufruct right. Also of or relating to the nature of a usufruct.
Writ Petition	The Indian legal system allows writs (directions, orders) to be issued by the courts on petition by an aggrieved party. The writ is addressed to an authority or to persons, natural or jural, who is to do or refrain from doing something and functions to enforce a legal right conferred by the Constitution or otherwise, barring mere contractual rights. It can include remedies against the arbitrary or illegal actions of the authority or person.

Key concepts, definitions of administrative and technical terms, etc.

<i>Adivasis</i>	Indigenous people, tribals.
Caste	Four <i>varnas</i> are mentioned in the ancient Hindu scriptures: <i>Brabmins</i> , <i>Kshatriyas</i> , <i>Vaishyas</i> , and <i>Shudras</i> . The group of former 'untouchables' (now: <i>Dalits</i>) are either considered as the lower section of <i>Shudras</i> or as outside the caste system altogether. The modern Indian caste system is more often talked of in terms of communities and sub-communities (<i>Jātis</i>).
Centre	The central, federal Government of India.
<i>Coolie</i>	Labourer doing manual work, often day-wager.
<i>Crone</i>	10 million.
<i>Dalits</i>	Member of Scheduled Castes, formerly known as Untouchables.
Easement	A right which the owner, or occupier, of land can possess as such, for the beneficial enjoyment of his/her land. The right to do something, or to prevent and continue preventing something to be done, applies to certain neighbouring land owned by someone else.
<i>Gram Panchayat</i>	Village council or assembly.
<i>Gram Sabhā</i>	Meeting at village level provided for as part of the <i>Panchayat Raj</i> institution.
<i>Hobli</i>	A tax revenue term for a cluster of villages.
Independence	The British <i>Raj</i> of India terminated on the midnight of August 15, 1947, after which the independent dominion of India was created.
Institution	<i>Here:</i> used in the generic sense of the word, thus synonymous with organisation or authority.
<i>Kannada</i>	The main language spoken in the state of Karnataka.
<i>Kere</i>	A natural freshwater lake or tank.
<i>Lakh</i>	100,000.
Paddy	Rice (semi-aquatic, irrigated crop).
<i>Pukka</i>	Genuine, good of its kind, high quality, first class.
Riparian right	A right of the adjacent landowner to usufructuary use of flowing water.

<i>Sabbā</i>	Meeting, assembly, congregation, or council.
Seepage	Percolation into pores or from the soil.
<i>Sic</i>	So; thus; actually written or printed like this
state	short for nation state; refers also to the government authority.
State	(Semi-)autonomous part of a federation of a sovereign nation state.
<i>Taluk</i>	Administrative level in some States of India.
Tank	Pond, water-work, reservoir or lake of small size used for storing freshwater. NB! Can also denote the plastic cistern container that stand on the roofs of most buildings.
Tubewell	Drilled well, from which water is drawn via mechanical pump.
Sump	Underground water storage facility; a cistern tank.
The West/ Western tradition	Part of the world with cultures of European origin – contrasted historically with the East or Orient civilisation.
Wet crops	Crops which normally require irrigation for their growth.

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Part 1

Chapter I

Introduction

1 Competition, knowledge and control

Competition for water is intensifying. The urge to cater for basic human needs, together with demands for general improvements in standards of living and continued economic growth, has resulted in a rapid increase in the pressure on available water resources. Lowered water tables, reduced natural flows, steadily more complex pollution and quality problems, natural occurrence of arsenic and fluoride, etc., tremendously affect people's access to water for sustenance as well as the agricultural sector's needs and conditions in the ecosystems. Demographic trends of increasing population density, migration and urbanisation add to the picture, changing the patterns of competition for freshwater.

An estimated almost 1.2 billion people worldwide lack access to safe drinking water. The less-developed regions of the world are particularly vulnerable to increasing water scarcity, and the areas which are at risk due to climate change have become a matter for the United Nations (UN) Security Council. Efforts to build up and disseminate greater knowledge about how man-made climate change will affect such things as access to freshwater have, in line with this, been rewarded with the Nobel Peace Prize. Access is increasingly a question of linking scientific knowledge and forecasts with value-based principles such as precaution, morals, dignity – and law. All these aspects are of importance for effective regulation and control, and for the concepts of *rights* and *obligations* to be meaningful.

2 Access to water in terms of rights

In a recent study of peri-urban¹ water conflicts in Chennai, southern India, a picture is painted of colourful tankers travelling empty out of the city on congested roads to collect water purchased from the wells of farmers in surrounding villages. They return full and ready to deliver the water to houses and hotels, to cistern tanks in the streets, and to the women waiting with their pots and vessels. The study points out how these tankers fill a vital complementary function to supply city dwellers with freshwater, whilst simultaneously earning some farmers good money from selling water from their wells. Meanwhile, others “lose access to a precious common resource for agriculture or village water supply” and seek “to defend their water rights”.² This picture could have been from the city of Bangalore, like Chennai in the southern part of India.

In the language of law, the phenomena described can be understood from several angles or dimensions, three of which are chosen here. There is the right to water for drinking, etc., as a *human* right; there is the right to use and sometimes appropriate water which is related to *property* in land; and there is the ‘water right’ that someone can have *acquired* by customary law, prescription, agreement, court order, or permit. In other words, there are different kinds of ‘rights’, and they in turn relate to different aspects of ‘water’ (surface- and groundwater, water as a medium or as a resource of sustenance, and so on). Legally, these rights partly converge, but partly stand in opposition to each other in the sense that they represent competing uses.

For some twenty years, development thinking in the UN and many development aid institutions and organisations has been directed towards a *rights-based approach*.³ Accordingly, respect for human rights, not only human needs, is promoted alongside society’s obligation to respond to the inalienable rights of individuals.⁴ In the wider water management and governance discourse, the issue of water ‘rights’ and how such relate to other ‘rights’ – human rights, land and other property rights, riparian rights, customary rights and practices, etc. – is mostly being discussed from a philosophical viewpoint, with more or less striking economic overtones. This leaves a gap in knowledge and a need for an analysis that is better grounded legally. It is, in short, unclear whether to see a right to water as a natural and inherent right for every human being, or if such a right could only be argued for when positively regulated.

Two aspects are therefore of further importance here. First, something perceived as scarce and (therefore) involving a value in society is generally organised and controlled to some extent. However, a resource can be perceived as more or less complex in itself, or the scarcity situation is differently interpreted. The effect

¹ The notion of ‘peri-urban’ is comparable with what that of ‘rural-urban fringe’, Bentinck, p. 19.

² Butterworth & Warner, p. 9. A typical tanker holds 7,000 litres.

³ UN 1998/Annual Report of the Secretary-General on the Work of the Organization, para 173. Cf. Chapter V below.

⁴ *Ibid*, para 174.

can be control not sufficiently adjusted to scientific and/or social facts. Much use of and operations regarding water are unregulated in formal law – both in terms of the rights allowed and the obligations that correlate to having and exercising a right. Social norms and local rules may also be lacking for some aspect of water use and abuse. The result can be both unsustainable and inequitable.

Law relating to *groundwater* is a typical example. Early on, groundwater was thought of as invisible, hence unpredictable, and therefore better left largely unregulated. Many legal systems today, however, place restrictions on how it can be abstracted, affected and used. As we will see in Chapter IX, existing law on groundwater in India is limited in its scope.⁵ Landowners are seen as ‘water-lords’ in the meaning that they are perceived to have unlimited rights to the water underground. This perception applies to more than 20 million wells spread across the Indian subcontinent,⁶ and it is the precondition for farmers to sell ‘their’ groundwater to city dwellers as well as for industrial use in, i.a. the textile business and for the manufacture of soft drinks. The legislator’s focus has instead been on mitigating the effects of certain polluting activities on (surface) water quality.

Secondly, most of what is termed ‘law’ – subsuming ‘rights’ and ‘obligations’ – is understood thus, due to the theory of legal positivism developed in the Western world since the 1600s. In short, a rule giving landowners an unlimited right to appropriate groundwater is valid regardless of whether it is also morally or ethically sound. It is furthermore considered as the legally binding rule, even though there might be other perceptions in the local setting – which might reflect traditional practice and which might even better reflect the special context. The Indian legal system is a mixture of the country’s indigenous law and English common law as well as rules and doctrines later imported from the civil-law system, and also doctrines applicable in the U.S.A. The influence of judge-made law is strong and very important in the field of environmental protection and the right to water. *Within* law, the formal view predominates over conceptions of ‘natural rights’, ‘community rights’ and the like. *Outside* law, the thinking is often fundamentally different. This dichotomy is termed ‘law in books’ and ‘law in action’, respectively.⁷

These aspects and the three dimensions to ‘rights’ will be developed in Part 2 of this study. In Part 3, this will be analysed in the Indian setting, and applied on the Bangalore situation. With the foregoing as background, the *overall aim* of this study can be introduced: to analyse critically the notion of ‘rights’ and the role of law relating to access to water.

⁵ A Model Bill on groundwater has been issued and a number of States have enacted regulation on, for instance, drilling of new wells in over-exploited areas.

⁶ According to the Third Minor Irrigation Scheme Census, conducted in the years 2000-01, the number of wells was 18.5 millions, Ministry of Water Resources web page ‘Results and findings’. Predominantly, these consist of dug wells and shallow tube wells, and most are privately owned.

⁷ The division between ‘law in books’ and ‘law in action’ was first made by the sociologist *Roscoe Pound* in 1910. While the former relates to an internal view on law, often by applying a black-letter approach, ‘law in action’ takes more of a sociological point of view.

3 Turning scarcity into safe access

3.1 The conceptions of 'access' and 'scarcity'

The connection between poverty-alleviation, development and access to water has for several decades been stressed both by the scientific community and among policy-makers. The Human Development Report of the United Nations Development Program (UNDP), 2006, had water as its focus. The point of departure was unambiguous:

“For some, the global water crisis is about absolute shortages of physical supply. This Report rejects this view. It argues that the roots of the crisis in water can be traced to poverty, inequality and unequal power relationships, as well as flawed water management policies that exacerbate scarcity”.⁸

This UNDP Report thus held that inadequate access to water is a deficit rooted not in physical (un)availability, but in political choice and governance.⁹

What is meant by ‘access to water’? The notion refers to access to *safe drinking* water and is mostly understood as that developed by the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF).¹⁰ There are several definitions, though, including different estimations of the quantitative requirements (ranging from 3 to 50 litres per capita and day, lpcd). This is to cover not only the needs of water for drinking, but also for preparing food at home, as well as basic health protection.¹¹ ‘Access’ is here normally distinguished from the notion of ‘consumption’. The definition of ‘safe’ water relates both to the water source and/or technology as being ‘improved’, based on certain criteria,¹² and to such aspects as physical accessibility.¹³

It is generally recognised that the issues of access to water have clear gender implications: it is traditionally women and girl children who are assigned responsibilities involving fetching freshwater and storing it in the household; preparing food and other domestic chores; and taking care of the basic health of family members. It is, contrariwise, traditionally and throughout the world, men who have the decision-making power in the sense that they are involved in infrastructure development, they are generally granted a better education, they have earnings outside the home, and they are allowed to take part in public life to a greater extent than women are.

⁸ UNDP 2006, p. v.

⁹ *Ibid*, p. 2. The yearly Human Development Reports do not express the view of the UNDP as an organisation, though.

¹⁰ The terms ‘access’, ‘safe’, and ‘drinking water’ will be further analysed and put in context in Chapter V below. Issues of *sanitation* are normally dealt with in close connection to ‘access’, but the scope of this study does not permit this.

¹¹ *Cf.*, foremost, Gleick’s writings; Howard & Bartram for the WHO, pp. 7, 9.

¹² *Cf.*, foremost, publications and guidelines from the WHO 2006.

¹³ Howard & Bartram, pp. 23f.

What is ‘water scarcity’, then? Scarcity occurs where the readily available (utilisable) water resources are inadequate in relation to what is demanded. There is no *absolute shortage* of freshwater on Earth in relation to its population. Except for in natural disasters, water tends to be available – and yet over one billion people lack *safe* access to water for drinking. This can be due to several factors apart from the physical and chemical ones: for instance, the distance to a source of freshwater from human dwellings; very many users competing for the same source; lack of appropriate infrastructure; poor service delivery, or discriminatory execution of the water provision. In addition, many millions of people lack the ability to pay for available water services because they live in extreme, *absolute poverty*. All these factors are talked about as matters of governance.

At the same time, one-third of the world’s population is currently living in places where water is at least temporarily scarce. Conditions such as regional precipitation being low (or lower than the statistical average over a period), or the water resources being over-allocated are two of numerous reasons. Consumption requirements can also far exceed what is (can be) stored in reserves, and agricultural practices are often highly inefficient. Further, the demand for water-intensive crops (such as rice) and meat is steadily increasing. Most of all, though, scarcity seems to depend on un- or ill-planned allocation strategies.¹⁴ Essentially all the relevant literature from the past fifteen years recognises that socio-political and socio-economic factors – social structures, law, norms, institutions, and power inequalities – play important roles in relation to water access. There is thus a need to develop more functional means to administer and arrange for access to drinking water.

To attain improved access to safe drinking water, water users’ needs and demands and the availability and means of supply must be taken into account. The demand-side of the problem is partly due to competition between different sectors¹⁵ (mainly drinking/domestic needs, agriculture/food security, and industrial), and partly due to where the water consumers are located. The problem is compounded by the varying requirements for quantity and quality, foremost potability. Providing supply is, in turn, always related to costs – in time as well as ready money – for collection, storage, treatment, distribution, etc.

3.2 Goals for development – the MDGs

One result of the focus on national and international agendas to relate development efforts to water issues is the UN proclamation of 2005-2015 as the International

¹⁴ Cf. Molden’s *et al.* ‘Comprehensive Assessment’. The researchers in this project have estimated that agriculture uses up to 70 times more water to produce food than is used for drinking and other domestic purposes. Recently the production of bio-energy such as ethanol fuel is also becoming a large water consumer. Molle & Berkoff, p. 3, have (as part of the Comprehensive Assessment) found that sectoral ‘allocation stress’ is often identified as resulting from four different observations: a) agriculture gets the ‘lion’s share’ of all diverted water resources; b) agriculture is not only the main water user but also an activity that incurs by far the largest wastage; c) cities are ‘thirsty’; and d) water productivity in non-agricultural sectors is far higher than in agriculture.

¹⁵ Ecosystem services are fundamental but are difficult to classify as a ‘sector’.

Decade for Water.¹⁶ More importantly, though, is that the UN in 2000 adopted eight *Millennium Development Goals* (MDGs).¹⁷ Though all these goals relate more or less directly to how we manage our water resources, the most important are goals one, three and seven: to ‘eradicate extreme poverty and hunger’, to ‘promote gender equality and empower women’ and to ‘ensure environmental sustainability’. Special targets have been declared for the MDGs – the tenth being to ‘*reduce by half the proportion of people without sustainable access to safe drinking water*’ by 2015.¹⁸

Of the people who lack access to safe water, nearly two-thirds live in Asia. They have to resort to potentially harmful sources which kill more than four thousand children every day. Some 1.8 million people die each year from diarrhoeal diseases, including cholera. Ninety percent of these are children under the age of five. The absolute majority of the affected live in developing countries and eight of ten are rural dwellers.¹⁹ The proportion of poor living in cities and lacking access is, however, increasing as a result of urbanisation.

Meeting the target of ‘reducing by half...’ would mean better health, longer lives, greater dignity and improved production potential for half a billion of the world’s poorest people, especially women and children. Progress regarding access to drinking water is – according to several UN bodies and reports they refer to – pointing in the right direction, although the trend has deteriorated somewhat. From the statistics, it seems as that Sub-Saharan Africa will most probably not see the target met in time.²⁰ The MDG Indicators of 2006 and the 2007 MDG Progress Chart show that in the case of India, though, the *halving* has now been reached: comparing the figures for 1990 and 2004, the proportion of the population using so-called improved drinking water sources had risen from 70 to 86 percent (from 89 to 95 percent in urban areas).²¹ Nevertheless, what the current statistics actually show and whether the access in question is ‘sustainable’ and/or actually ‘safe’, merit discussion. In addition, while a *target* may have been met, efforts cannot stop there. Behind the figures, millions of people still lack the crucial access to water.

3.3 (Peri-)urbanisation processes

The greatest challenge to the provision of water and sanitation services will be in the urban areas.²² During the next few decades, towns and cities of the less developed regions of the world are projected to absorb the entire expected population growth,²³ and around 2017 the number of urban dwellers is projected to equal the

¹⁶ The International Decade for Water is in fact the third of its kind. The first decade, 1965-74 was dedicated to hydrology, whilst the second, 1981-90, focused on drinking-water supply and sanitation. 2003 was the International Year of Freshwater.

¹⁷ General Assembly 2000.

¹⁸ The goal and the target are often referred to as ‘7/10’.

¹⁹ WHO/UNICEF JMP 2006; WHO 2005, p. 7.

²⁰ WHO/UNICEF JMP 2006.

²¹ UN Statistics Division, per update 10 Oct 2006; urban and total.

²² WHO/UNICEF JMP 2000, pp. 29ff.

²³ UN DESA 2006, p. 2.

number of rural dwellers in the less developed regions of the world.²⁴ The majority of people who migrate to cities and towns are poor, and will likely end up in the peri-urban areas and in the slums. One consequence of such settlement shifts is that prospects for ‘improved’ access to safe water will remain low, or might even decrease.

Urbanisation brings with it a situation where the city competes with the rural hinterland for scarce resources – and the latter increasingly supplies the former with water. Urbanisation should lead to advantages of scale etc. for the providers, and – at least in theory – to water being more easily accessible because of proximity.²⁵ These factors are at the same time likely to augment actual water consumption and possibly also demand – and hence also the costs of supply and the pressure on resources. Further, water is brought in to cities over steadily larger distances, taking little account of river-basin boundaries, administrative borders between upstream/downstream districts and States, or competing sectors’ needs.

In developing countries, the definition of urban centre boundaries is problematic. This is especially the case where – as in Bangalore – agricultural and non-agricultural activities are spatially integrated with industrial development, suburban layouts and other uses of the land. At the peri-urban interface, mobility and fluidity, commuting and the movement of goods within the region, tend to be extremely high.²⁶ As we will see, the city of Bangalore suffers from what we can call peri-urbanisation and unclear boundaries, both decisive for the possibilities to claim one’s right of access to safe drinking water and for issues of legal regulation, control and preservation. Further, it will be shown how boundaries and geographical location affect strategies for self-sufficiency and need for small-scale providers. This can be explained by the peri-urban interface frequently featuring, on the one hand, a population of disproportionately poor households and producers and, on the other, the possession of important environmental services and natural resources that are consumed in the towns and cities.²⁷ Many people therefore live “so close to the city, (yet) so far from the pipes”.²⁸

3.4 Urban poverty and water access

The global phenomenon of urbanisation brings with it steadily growing urban poverty, in that the group defined as ‘urban’ (though strictly, many are thus ‘peri-urban’) and simultaneously ‘poor’ is becoming larger by the day. Unless this has already happened, it will not be long before the majority of the world’s poor will be found in urban areas.²⁹ Not all peri-urban areas are ‘slum’ areas, though.³⁰ Further,

²⁴ UN DESA 2004. On average, it is estimated that the world became ‘urbanised’ during 2007.

²⁵ Demand and access as factors of distance to source are discussed in Chapter V.

²⁶ Tacoli, p. 148.

²⁷ Allen, Dávila & Hofmann 2006a, pp. 20f.

²⁸ Jasko.

²⁹ Cf. Radoki, p. 344, with references.

³⁰ There are several ways of understanding the notion of ‘slum’, as will be seen in Chapter III.

not all urban and peri-urban poor live in slum areas; and not all areas formally registered as slums are inhabited by people that are registered as and/or perceive themselves as poor. At the same time, an increasing number of poor lead their lives on the pavement or as temporary squatters in buildings or on pieces of land that legally belong to someone else, because slum dwellings are also scarce. Under such circumstances, the urban and peri-urban poor not only live undignified lives in comparison with people living in houses or *pukka* (good quality) huts³¹ – the practical accessibility to amenities is normally also less, which affects prospects for development both individual and general.

Urban poverty differs on several accounts from poverty in rural environments. Urbanisation can be viewed as an indicator of ‘development’, as a sign of high industrialisation and of a technologically advanced economy. The more urbanised a nation, the higher the average life expectancy and the literacy rate, and the stronger the democracy.³² Partly because of this, it has been held that the urban poor in less-developed regions of the world often fare better than the average rural resident with respect to access to basic services such as drinking water, sanitation, electricity or educational facilities.³³ However, according to *The State of the World’s Cities Report 2006/7*, the general assumption that urban populations are healthier, more literate and more prosperous than rural populations is not true.³⁴ The Report found that slum dwellers are as badly off, if not worse, than their rural relatives.

Cities may be centres of wealth and opportunity, but they are also centres of environmental problems and huge, often growing, inequalities. Around a billion urban dwellers live in crowded huts and tenements, boarding houses or squatter settlements – or are homeless pavement dwellers. Being poor in the urban environment generally means having less possibilities than in the rural milieu to provide for one’s own needs. Most have to live without adequate provision of water and sanitation, healthcare, schooling, etc. They are often exploited by landlords, politicians, police and criminals.³⁵ Even in established democracies such as India, many are denied the possibility to vote, because they lack the formal address required for registration with various authorities. In India, this problem is connected to the lack of *khata*, the certificate which is the evidence that one holds property in land and identifies the person who is primarily liable for payment of property tax.

There are greater divides between different strata of the urban population than in the rural environment, due to income distribution. A large group of inhabitants of developing countries experience absolute poverty, measured in terms of purchase power parity. This often affects access to drinking water when it has to be purchased.

³¹ A house which is *pukka* would be of ‘good quality’, thus not a shelter or mud dwelling.

³² Satterthwaite.

³³ UN DESA 2006, p. 2; National Research Council.

³⁴ UN-HABITAT 2007.

³⁵ Cf. Satterthwaite.

4 Setting the stage: access and supply in Bangalore

4.1 Development and growth in India

One imperative reason for the generally increasing pressure on India's water resources is growth, measured in terms of both economy and population. The Indian population exceeds 1.1 billion people and annual demographic growth is almost 1.4 percent.³⁶ The economy opened up in 1991 and India joined the World Trade Organisation in 1995.³⁷ The gross domestic product (GDP) has risen by some 8 percent per year lately, leading to higher purchasing power and altered lifestyle choices. The real GDP growth (on an expenditure basis) has been forecast to slow from an estimated 8.7% in fiscal year 2007/08 (April-March) to an annual average of 7.6% between 2008/09 and 2012/13.³⁸

The urbanisation that is seen in most parts of the world is also evident in India. At the last census (2001), over 70 percent of India's population lived in villages, but decadal growth was 17.9 percent in rural areas compared to 31.2 percent in urban, indicating a clear trend. The middle class is believed to comprise somewhere between 200-300 million people; though the figure is not very exact it is beyond doubt growing rapidly. Around a quarter of the population is, nonetheless, living below the poverty line (BPL).³⁹ The official definition of this poverty line is based on a daily calorie norm of 2,400 kcal (2,100 kcal in the urban environment), converted to the purchasing power of food items only. In the State of Karnataka (of which Bangalore is the capital), the calculated price of the urban food basket equivalent to 2,100 kcal means that earnings above the threshold of Rs.599 (approx. €10, US\$15) per person and month place a person *above* the poverty line.⁴⁰

India's development is hence very varied and unevenly spread – and in certain respects cannot be characterised as progress. Almost half of the children below five years of age still suffer from malnutrition and under-weight.⁴¹ Female foeticide (sex-selective abortion) is practised to the extent that the sex ratio is among the lowest in the world, despite legal prohibition and efforts to raise awareness and change at-

³⁶ The 2001 census put India's population at 1.027 billion; the estimation five years later was 1.128 billion. This gives a growth rate of 1.38 percent. Life expectancy is 64.71 years on average, and the infant mortality rate is, in total, 54.63 deaths/1.000 live births. Census 2001

³⁷ According to the OECD, India during some years accepted bilateral, official development assistance (ODA) only from countries like the United Kingdom, the U.S.A., Russia, Germany, Japan, and the EU, as well as from the World Bank, the Japan Bank for International Cooperation, and the Asian Development Bank. The Scandinavian countries and some others are since 2006 reinstated as accepted donors, and in 2005, the net ODA received was almost doubled as in comparison to the year 2003. OECD web page 'India'.

³⁸ The Economist Intelligence Unit, data as of April 8, 2008.

³⁹ Planning Commission, Government of India, 2007a. Calculated for 2004-2005, released March 2007.

⁴⁰ The Economist's *Big Mac index* (based on the theory of purchasing-power parity) is not available for India. Instead, we can allow a comparison with a Western-style *café latte* which costs about Rs.90 in any of the Indian Coffee Day-chain's stores (as of April 2008).

⁴¹ UNICEF, p. 30.

titudes. The rural-urban divide is furthermore persistent, as is the disparity between the States in the north of India and the southern ones.⁴² Poor people tend to migrate to cities and urbanisation as such results in a widening gap between different strata of urban dwellers.

Many traditional aspects of Indian culture and social life remain powerful. Custom and superstition regarding caste mark people continuously from birth, though less so in the urban environment and among the educated. To this comes widespread corruption, particularly high in the water supply and sanitation sectors. Over 40 percent of the respondents to a 2004 survey had given more than one small bribe in the previous six months to falsify their water meter readings and lower their bills. Some 12 percent of customers had made payments to public officials to expedite new water connections.⁴³

The GDP per capita at purchasing power parity is low in India, greatly affecting the standard of living and matters of health. In terms of access to water, India remains a ‘developing country’ rather than a ‘newly industrialised’ one. Apart from being features of under-development and failure of just distribution, all the factors mentioned potentially lead to social unrest and are signs of deep inequalities.

4.2 Indian water woes

4.2.1 Facts and figures

The UN Intergovernmental Panel on Climate Change (IPCC) warns of melting Himalayan glaciers and many other climate change induced effects on freshwater, and the UN Environment Program (UNEP) has observed that availability of freshwater is going to be the most pressing problem in India during the coming decades. UNEP summarises the stress on the water resources as a result of many factors: urban growth; increased industrial activity; intensive farming; and overuse of fertilisers and other chemicals in agricultural production. Further, untreated water from urban settlements and industrial activities, and run-off from agricultural land, are given as primarily responsible for the deterioration in water quality.⁴⁴

India’s utilisable freshwater resources are unevenly spread both seasonally and topographically. The north-eastern part of the country has large perennial rivers that tend to flood their valley regions at the peak of the monsoon, whereas the south of India is drier and with smaller river systems that run in relatively straight and shallow valleys. The possibilities to store water in small reservoirs – known as

⁴² The Northern states, often referred to as BIMARU, are Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, Jharkhand, Chhattisgarh, and Uttarkhand. The Southern ones are Kerala, Karnataka, Tamil Nadu, and Andhra Pradesh. According to the 2001 Census, it is projected that in 2026, the former will have a population amounting to almost 610 million (422 million in 2001), whereas the Southern states will have 270 million (as against 223 in 2001).

⁴³ J. Davis, pp. 55ff. The survey was conducted in South Asia and included such institutions as the Bangalore Water Board.

⁴⁴ UNEP, p. 5.

tanks (*kere*, ponds, man-made lakes) – were once well developed.⁴⁵ Much of the country's water woes are due to lack of planning and regulation of these surface water bodies. With such a high annual rainfall and large total water resources, some of the most severe regional and temporal shortages should be preventable despite uneven geographical and untimely distribution.

There are also regional differences in regard to groundwater. Large parts of the Indian aquifers are unexploited and contain big reserves, whereas the water tables are falling dramatically in many other areas.⁴⁶ In the south of the country where hard-rock conditions prevail, yields from the wells are declining, leading to competitive deepening of wells and increasing pumping costs. Especially irrigation of agricultural land is driving the exploitation, but the groundwater tables in the cities are falling even more dramatically as a consequence of the need for drinking water.

The per-capita availability of water in India as a whole has been assessed as 1,720 cubic metres (m³) per year in 2007.⁴⁷ By international norms, a country with water availability less than 1,700 m³ is categorised as 'water-stressed', whereas less than 1,000 m³ makes it 'water-scarce'. Various regions of India, and areas such as the growing cities, face a bleak future in which water will be inadequate. Water insecurity is likely to be witnessed on an increasing scale and will hit the poor hardest. Forecasts vary, but indicate approximately 1,340-1,430 m³ per capita and year in 2025.⁴⁸ Some researchers are projecting a much worse scenario, though,⁴⁹ while others hold that with an "increase in the live storage capacity of reservoirs through construction of new reservoirs, there will be further enhancement in the availability of surface water resources".⁵⁰

The present understanding of climate change effects in India was summarised in 2007 by the IPCC in its Fourth Assessment Report. Among its findings are that increasing frequency and intensity of droughts in many parts of Asia are attributable largely to a rise in temperature; the cyclones originating from the Bay of Bengal and Arabian Sea have decreased but their intensity has increased, causing damage to rise significantly.⁵¹ Further, researchers report on an increase in extreme rains in north-western India during summer monsoons in recent decades; but fewer rainy days along the east coast.⁵² The projected decrease in winter precipitation over the In-

⁴⁵ Agarwal & Narain.

⁴⁶ Cf. Shah 2004a; Shah *et al.*

⁴⁷ Central Water Commission 'Water Info'.

⁴⁸ Kumar, Singh & Sharma, p. 795; Ministry of Water Resources web page 'Year 2007 declared as "Water Year"'; cf. Gupta & Deshpande.

⁴⁹ Garg & Hassan have recently suggested that the government institutions responsible are over-estimating the water available for use by some 66-88 percent by double accounting for the water in their methodology. These findings have been contested by, i.a. Jagadiswara Rao/blog, but they point to some problems in the methodology used in assessing the size of the groundwater resources that are further discussed in Chapter III.

⁵⁰ Jagadiswara Rao/blog.

⁵¹ Cruz *et al.*, p. 473 (the IPCC's 4th Assessment), with references.

⁵² *Ibid.*, p. 475.

dian subcontinent would reduce total seasonal precipitation during December, January and February, implying less stored water and greater water stress during the lean monsoon period. Intense rain occurring over fewer days, which implies increased flooding during the monsoon, will also result in loss of the rainwater as direct run-off, reducing groundwater recharge potential.⁵³ Melting Himalayan glaciers will dramatically affect access to freshwater in the short and long-term.

It is difficult to say how widely spread the knowledge of noted and predicted climate change is. The mass-media are covering the matter of global warming regularly since 2007.⁵⁴ However, most of the apparent coverage addresses the English-speaking (educated) middle-class audience. In terms of consciousness, a range of institutions – from the judiciary to planning authorities to village councils – will therefore need to increase awareness shortly. Measures of mitigation and adaptation need be discussed and implemented, not least in relation to access to water.

4.2.2 Strategies of access

For a majority of the people living in towns and cities in India, day-to-day survival is based on transfer of water from areas further and further away, via pipelines and/or tankers. This water is taken mainly from the rural hinterland – from rivers and aquifers, sometimes from reservoirs. During the summer months, it is common that even citizens with piped connections face periods during which they have to make their own arrangements to obtain drinking water. In comparison, non-connected urban dwellers – primarily those without *pukka* houses and *kbata* – experience hardship throughout the year. They often need to make direct payments for every litre of their drinking water, and yet carry it over long distances.

As indicated, India has a market where private water vendors sell freshwater (groundwater). This supplements the public-service providers in cities and towns as well as in the rural environment, but it also contributes to the fast lowering of groundwater tables. As the vast majority of the landowners who pump and sell water are located outside the city centres, this phenomenon becomes an interface issue between rural and peri-/urban areas. The fact that little regulation is enacted so far is often defended as a practicality: the scale of the problem is so vast that control and follow-up of how well binding provisions were implemented would be profoundly difficult. The widespread culture of corruption in India ('speed-money' as well as sheer bribes) contributes to the problem of effectively regulating groundwater abstraction. This, we can presume, builds on reluctance to control among the concerned.

Instead, most steps taken to deal with the water woes are technical in their approach. They include the search for new, untapped groundwater reservoirs; desali-

⁵³ *Ibid.*, p. 484; Gupta & Deshpande.

⁵⁴ The awareness and debate seems to have increased significantly during the autumn of 2007, much in relation to the December meeting of UNFCCC in Bali, Indonesia. In connection to the meeting, R. Ramachandran, p. 32, wrote that "[r]ich Indians are eating into the carbon space the poor need for economic growth, and recent national policies have helped such disparities grow".

nation and reverse osmosis treatment; small-scale attempts at recycling waste water (often called 'NeWater'); more efficient irrigation systems and some promotion of dry crops⁵⁵ etc. Interlinking the national rivers is another solution that has long been discussed among scientists and at policy level, though heavily criticised.

Much information has been provided to house owners, building contractors, authorities, NGOs and others on how rainwater harvesting (RWH) structures can be designed to collect precipitation and recharge the aquifers;⁵⁶ but though this ancient and low-tech solution is receiving ever-increasing attention it has so far been sparsely regulated in law.⁵⁷ Court directions to governments to clear gutters and drains in order to avoid floods in the storm-water sewer systems are occasionally issued (but often met with factual contempt by the authorities responsible). General information to the public on how to conserve available water resources is also spread via the mass-media, on displays and billboards, in schools etc. Relatively few Indians remain unaffected by and negligent of the scarcity problems. On World Water Day in 2004, the message from a groundwater expert, interviewed in the newspaper *The Hindu*, was "Learn to live with less water".⁵⁸

4.3 Bangalore – an Indian city in transition

Bangalore is the capital of the State of Karnataka and is situated in the central part of peninsular India (on the Deccan Plateau) (*Map 1*), with a world-wide reputation as the 'Silicon Valley' of India.⁵⁹ It is home to somewhere between 6.5-9 million people.⁶⁰ The pressure on Bangalore's water resources is steadily increasing. This is partly due to the great influx of people – migrants settling down as well as business people staying for shorter periods – and partly because the supply is decreasing both in quality and quantity. The public water utility – the Bangalore Water Supply

⁵⁵ 'Dry' crops include maize, wheat, pulses and oilseeds rather than paddy (rice). These can be grown under rain-fed conditions but irrigation is prevalent in dry-crop production.

⁵⁶ For instance, there are the Centre on Science and Environment – which publishes and educates widely on the subject and has been awarded the World Water Prize for this – and the Rainwater Club, Bangalore – which informs on and designs rooftop RWH systems.

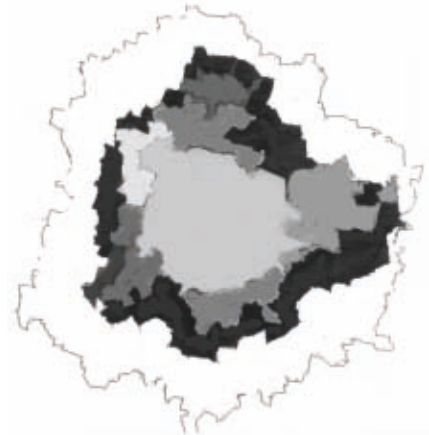
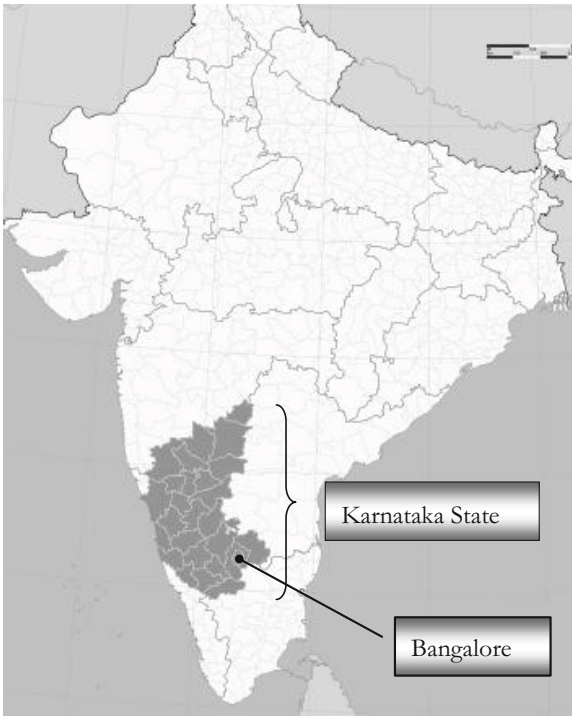
⁵⁷ Rainwater harvesting has been made mandatory for new buildings under the Karnataka Building Bye-laws 2003, No 32. For sake of comparison it can be mentioned that when the Chennai Metropolitan Area Groundwater (Regulation) Act, 1987, amended through the Tamil Nadu Act 37 of 2002 came into force, the provisions were backed up with information campaigns and via economic incentives, thereby reaching a higher degree of implementation. As shown in Chapter VIII, Karnataka's rules have mainly been implemented through the Water Board's actions.

⁵⁸ Lakshmi.

⁵⁹ A suggestion to rename the city *Bengaluru* has been delayed for lack of clearance from the Union Home Ministry (as of April 2008).

⁶⁰ It has proved difficult to find accurate statistical figures for Bangalore's population, especially as the sources do not indicate what is included in the definition of 'Bangalore'. Possible definitions comprise the municipality of Bangalore (the BBMP area as revised from January 2007), or the Bangalore Metropolitan Area as defined by the Bangalore Development Authority (whose jurisdiction as per the last Revised CDP covers the *Taluk*s of Bangalore North; Bangalore South; Bangalore East; and parts of Anekal, Hoskote, Devanahalli, Magadi, and Nelamangala), cf. Bangalore Development Authority web page "Town Planning Department".

and Sewerage Board (BWSSB, hereinafter ‘the Water Board’) – cannot provide all citizens of Bangalore with freshwater, and the water taken from aquifers is very unreliable, as we will see.



Left: Map 1. India (cut); Karnataka State. Adjusted from Wikipedia web page ‘Karnataka’.

Right: Map 2. Greater Bangalore. Inner field: Core city. Grey fields: former municipalities. Black field: green (nature reserve) belt area. White field: 110 villages. Adjusted from Anonymous 2006d.

Most of the IT and call-centre businesses that are so important to Bangalore, and an increasing number of residents were located outside the administrative borders of the city until mid-January 2007. This entailed various kinds of inconvenience, and eventually contributed to Bangalore’s boundary being moved outwards. The merging of the core city area with its eight surrounding municipalities and 110 villages was then notified, creating the Greater Bangalore Municipality Corporation (*Map 2*). With this, the already very widespread city tripled in size and became the largest corporation in the country. Planning, maintenance, and various other tasks related to the infrastructure of the larger city area now have a coordination potential, not least in terms of access to and supply of water.

In parallel with the process of merging Greater Bangalore, the ‘Greater Bangalore Water and Sanitation Supply Project’ was implemented. The main aims were to provide piped water from the River Kaveri (*Eng.* Cauvery) to all of the former municipalities – where most of the inhabitants used to rely on groundwater extraction – and to reorganise the finance and management of the service. The Kaveri, which is a major water source for Bangalore, is 100 km away and some 500 m lower, and this makes distribution costs very high. In addition, the river is shared with three

downstream States and is therefore the object of a century-long dispute handled by the Cauvery Water Disputes Tribunal since 1990. As will be shown from the problems of access in Bangalore, water management at river-basin level must also take the broader context into account.

5 Aim of the study, research questions

The overall aim of the study was to analyse critically *the role of rights and obligations in attaining improved access to water*.

The notion of rights, while often referred to in the general water management debate, seems to allude to various rights simultaneously. A multitude of dimensions exist, where the human right to water is to be distinguished from ‘water rights’ and property rights in water resources.

To provide a background for the analysis, questions relating to how rights and the instrument of law matter and are understood in practice are pertinent. Therefore, the research included a study of a specific geographical location to find out both how access is realised in the rural, peri-urban and urban contexts and how it is affected by urbanisation and similar processes. This empirical part of the study focuses on the situation in Bangalore in southern India, a metropolis that is subject to change and transformation and suffers from water scarcity.

I have probed the following:

- What different meanings are assigned to the notion of ‘rights’ in law in general, and in discourses on water management?
- Is there a (human or other) right to access to water? How are the corresponding obligations formulated and fulfilled?
- ‘Whose’ is the water in the language of law and how is this issue regulated and discussed?
- How can the notion of ‘water rights’ be understood?
- Where there are different kinds of rights in relation to water, do they converge or oppose each other?

6 Outline of the book

This book is divided into three parts, with the following disposition:

Methodologies and reflections about conducting the study are presented in Chapter II. Next, the water-related and other conditions of Bangalore are analysed. This includes a deeper account of the importance of surface-water bodies – the tanks and the River Kaveri – historically and today. The increasing role of groundwater and the pressure on this resource are discussed from the point of view of insecurity: how precarious is the situation? We then look closer at the Kaveri River dispute and the Final Order of the Tribunal set up to solve this.

Chapter III also discusses aspects of poverty and (peri-)urbanisation, and how these and other factors are of relevance for the access to water. The case of Bangalore is special here as the city has recently undergone an administrative expansion.

In the second part of the book the focus turns to the notion of rights. Against a traditional understanding of law as either including or excluding moral aspects, we consider in Chapter IV if, and how, the meanings assigned to ‘law’ and ‘rights’ differ between the Western and the Indian context. Where much of the legal systems in Western jurisdictions is characterised by legal positivism, the case is somewhat different in the post-colonial, rapidly developing yet often conservative country that is India. We must acknowledge the many facets of its historical background, the pluralistic and religious society, the remains of English common law and influences from international environmental law.

Chapter IV also includes an account of the Public Interest Litigation instrument and how the Indian judiciary has borrowed a number of foreign principles in order to develop the law.

Next, we explore the rights-talk in relation to water for drinking and related purposes. Based on the relevant contemporary discourses but most of all on the Indian context, the topic is presented as having three interlinked dimensions: the right to water as a human right; water in terms of property rights; and water rights. Hence there are different kinds of right relating to water and they partly converge, but partly also stand in opposition to each other in the sense that they represent competing uses. The different dimensions will be generally portrayed and analysed in Chapters V, VI, and VII, respectively. In short, the three dimensions have the following characteristics:

The right to water as a human right (Chapter V): The discourse on a human right to water stems from the 1977 UN Water Conference in Mar del Plata, Argentina. It received relatively little attention until the UN Economic and Social Council’s Committee on Economic, Social and Cultural Rights submitted ‘General Comment No. 15’ on the matter in 2002. The most evident development during these decades, at least on paper, is that the rights-talk is now accompanied by more concrete discussions on duties and duty-bearers, i.e., the role of state governments as well as private parties in fulfilling their obligations to provide safe drinking water. Though steps are thus taken both in policy and practice, differences still prevail on how to interpret the existing international law and whether to acknowledge a *right*.

Water in terms of property rights (Chapter VI): The second dimension of water in terms of rights deals with property. Due to natural conditions as well as traditional conceptions, water is intrinsically linked to land and therefore also to landed, so-called real, property. We will look at water resources’ status as *res communes* since the day of the Romans, and the riparian rights doctrine. Property rights in groundwater are furthermore fundamental for access to water in times when the interface between the rural hinterland and the city is of increasing significance.

Water rights (Chapter VII): This notion can, in turn, be understood from several perspectives. A right to use water can be acquired via customary law, prescription, or an agreement between parties. A right can sometimes also be laid down by way of court order. Further, certain aspects of our water resources are regulated

under statutory law and a 'water right' in the form of a licence, permit or the like must therefore be granted by the authority responsible.

A 'right' to use water is one of many instruments the legislator has to distinguish use from abuse, but perceptions of when certain use is legal, lawful and socially acceptable can differ between legislator and concerned users. In the literature on 'water rights', one also finds a discourse about *de facto* rights, and on 'legal pluralism'. These facets will be analysed in the chapter.

In the third and final part of the book we return to the situation in India and Bangalore to apply the three dimensions. After examining how the human right to water is interpreted by the Indian judiciary and in statutory law, we look at the role of Bangalore's public water utility in effectuating the right to water in Chapter VIII. Given the dynamic transition that Bangalore is undergoing, the provision and supply of water are regulated and carried out in an environment subject to changes in several aspects. Legislative reform is needed for the human right to water to be ensured for all.

The other two dimensions of rights are also followed up. Chapter IX deals with Indian property law and rights in groundwater and aims, foremost, to investigate whether a landlord is indeed a water lord. There are few legal sources on Indian property rights in water and to comprehend them we are forced to trace the roots back to English, American, even Roman law. A critical reading of the present discourse on groundwater as a natural right and subject to ownership is offered.

In Chapter X, we look anew at the concept of water rights. The role of Water Users' Associations will be treated against an understanding of social norms, local rules and traditional practice. The Kaveri River dispute is analysed in more detail.

The final chapter aims to marry the three dimensions of rights over and to water in the Bangalore situation, concluding that we need to take rights and obligations seriously. A reform of mindset is inevitable to improve access to water.

Chapter II

Methodological aspects

1 Researching water management

1.1 *Interdisciplinary research*

The complex water-related problems and issues in the world today need a broader understanding and must be considered from different angles simultaneously. This, in turn, necessitates simultaneous integration of knowledge, values and methods from several academic disciplines. It also calls for researchers, policy- and decision-makers, communicators and others to embrace an unconventional mind-set. Sometimes this will result in Kuhnian paradigm shifts (such as the joint work of the IPCC), sometimes in less dramatic but likewise important steps towards thinking and acting along new paths.

For this study, I chose to go outside the traditional framework of my disciplinary background in law, as my firm belief is that complex water-related problems cannot be solved without an interdisciplinary approach. My definition of ‘interdisciplinarity’⁶¹ is that methods, concepts, theoretical points of departure, etc., from *several different disciplines* are *integrated* in the research process in an endeavour to further understanding by a more holistic approach to the inquiry. Hence, all stages from formulating research questions to choosing methods, analytical tools and theoretical framework; and carrying out the study, should be influenced by systems thinking. Interdisciplinarity “may be driven by scientific curiosity or practical

⁶¹ A range of definitions is at work, and a distinction is generally made between inter-, multi- and transdisciplinarity, although in different ways by different scholars.

needs”, as the National Academies Sciences *et al.* put it,⁶² and should strive towards an active development of notions and expressions.⁶³

Interdisciplinarity has its benefits and hurdles. Among the former comes the freedom one can take in everything from practical elements to finding support for hypotheses among scholars from a variety of areas. Interdisciplinary research will obviously be different, though not necessarily better, if conducted by a group of people who contribute with a range of competences and experience and who can eventually marry their fields to generate a new whole; but the PhD study in social sciences is often a lonely task and the end-product – with the misconceptions that may occur – will therefore always be attributed to the actual student performing it. I believe that the interdisciplinary approach can be followed in studies by an individual researcher, although many definitions of the notion seem to presuppose a whole team.

In practising interdisciplinarity, “values enter into scientific theory and data collection [for instance] through scientists’ hidden assumptions about disciplines other than their own... and through roadblocks created by the organization of academia”.⁶⁴ Although concerns about shared values, ‘thinking collectively’, etc., might be a greater challenge in a group conducting interdisciplinary research than for the lone academic, it is worth reflecting on the various barriers specific to this kind of knowledge production. *Sharachchandra Lélé* and *Richard B. Norgaard* have identified four types of barrier. Among the more important issues they point to is the difficulty of acknowledging ‘hidden’ values in the context of contentious and highly complex social issues – typically sustainable development, climate change, and water resource management – where decision-makers call on scientists to provide ‘objective’ advice.⁶⁵ Lélé and Norgaard suggest bridges over these barriers, such as linking natural science to social. They demonstrate that most natural scientists have been trained to believe that (their) science is value-neutral, and how a defensive response is likely from the same group when this belief is exposed or questioned.⁶⁶

Lélé and Norgaard exemplify this from a workshop aimed at exposing economists to basic hydrology. A hydrology expert introduced the concept of ‘groundwater potential’ and ‘sustainable utilisation’, where the latter was defined as the situation in which groundwater extraction does not exceed groundwater recharge. The authors write that at this stage, an economist pointed out that this definition was debatable, because

“if communities living in the upper part of the watershed (typically where most of the rain falls and recharge occurs) were to extract the entire recharge, it would leave no water for downstream communities or for base flow in the river”.

⁶² National Academy of Sciences *et al.*, p. 2.

⁶³ *Cf.* Sandström *et al.*, p. 16.

⁶⁴ Lélé & Norgaard, p. 967.

⁶⁵ *Ibid.*, p. 968.

⁶⁶ I would like to add that this seems to apply also to classically trained economists.

According to the authors, the hydrologist took quite some time to understand the empirical point being made and, even then, insisted that the official definition of sustainable extraction was ‘correct’.⁶⁷ – What we can learn from this is that few definitions or methods are altogether irrefutable or incontestable: they are constructed from observations and sometimes it takes a layperson to question whether the emperor is wearing any clothes. Interdisciplinarity is therefore well suited to combating conformism and shedding new light on established truths.

Another kind of difficulty with writing a dissertation that can probably be classified onto different library shelves concerns the contemplated readership. For whom have I written? The primary addressee is a person devoted to water management in the Indian and similar contexts. I am a jurist, and those with the same training as I might recognise and appreciate more in this text than others; but I hope to reach a wider audience. However, many readers will presumably not have knowledge of law,⁶⁸ or be acquainted with the Indian setting. Likewise, there is a risk that the hydrogeological and general water policy terminology is unfamiliar to many. On the contrary, certain aspects might seem trivial to some readers, such as (parts of) the thorough account of legal method and of general property law given below. The challenge has been to make this text generally accessible to everyone with an interest in water management in the chosen context, but it is inevitably an academic piece of work.

Another indisputable benefit of conducting an interdisciplinary study is that it allows for the collection of data from other sources, and with the help of a larger variety of methods, than an intra-disciplinary one might. It can be termed an eclectic or pluralistic approach: selecting the elements that seem best from various sources, styles, doctrines, ideas, methods, etc.⁶⁹ Accordingly, my research was performed partly from my desk via electronically accessible libraries and databases, and partly through discussions at conferences in Sweden, elsewhere in Europe, and in India. More importantly though, and as will be discussed below, it also brought me to the sites under study – to remote, tranquil villages and to the congested, noise-polluted, and cramped but charming streets of metropolitan areas such as Bangalore, Chennai, and New Delhi. The combination of locations and spheres from which I have acquired my knowledge has naturally enhanced the possibilities for deeper and more grounded comprehension.

1.2 Taking a (mainly) qualitative approach

I developed and adapted the research questions of this study as the work progressed: as they should, increased understanding and – not least – field visits made me reflect and revise. The formulation of the questions was thus a process inspired

⁶⁷ *Ibid*, p. 970.

⁶⁸ Hopefully the use of a Latin legal word here and there will not scare away too many readers, since such are legal-technical terms dressed in a language which is shared among jurists in a majority of the world’s legal systems.

⁶⁹ *Cf.* Punch; Johnson & Onwuegbuzie.

by the explorative research approach and the hermeneutic circle. The information and data used have often been triangulated to test their validity, e.g., statements expressed during an interview might have been compared with another source such as an interview with someone else and/or with governmental documents, and *vice versa*. The purpose has been to reach understanding of certain phenomena, of people's values and their own understandings, of prerequisites and prospects – because many of the problems of freshwater scarcity and access/supply are socially and culturally coloured. This has called for a hermeneutic point of departure and a qualitative research approach: an interpretative attitude towards people's actions. However, for this study I have also spent considerable time locating quantitative data in terms of numbers and figures, for instance regarding population growth from the census of India, about the Kaveri River, and for hydrogeological reasons. I found more than once that irrefutable, incontestable data rarely exist, and that one and the same Indian authority can give very different information. Again, comparing data from various sources was the key, but not always sufficient.

Coming to India as a foreigner means seeing conditions and problems with an outsider's eyes. This has several advantages and disadvantages. As far as possible I have taken into account that my perceptions are influenced by the *different* experience, cultural background, situated knowledge, and pre-understanding that I carry with me, recognising that a totally neutral point of departure is impossible.

The qualitative methods have been described as

“procedures for the analysis of raw data that consists of words or pictures rather than numbers. These raw data can be pre-existent, as in historical documents, or created by the research process, as through interviews. In qualitative research, data-collection and analysis methods are not standardized but unique, often with a variety of methods being used in an iterative fashion that fits the peculiarities of the research problem”.⁷⁰

The data collected here is qualitative in that it departs from what has been thought, said and written or otherwise represented and expressed, such as in maps, pictures, constructions, products, and symbols. This data – all of which can be described as *text* – has a social *context* against which it has to be read; and according to hermeneutic theory the meaning of the text can be interpreted to give directions for future research steps. For instance, when analysing legal texts, the interpretative element is very important.⁷¹

Much of the analytic reasoning made here in order to draw wider conclusions can be termed inductive. As formulated in an anthropological textbook, “[i]nduction consists of going out there, ‘watching and wondering’, collecting information about what people say and do. Deduction consists of attempts to account for facts by means of a general hypothesis or theory”.⁷² Via empirical observations in

⁷⁰ Auger & Dow, p. 386.

⁷¹ The hermeneutic approach in legal research is often read as similar to *Ronald Dworkin's* ‘interpretivism’, but many others have also worked with this approach, e.g., *H.L.A. Hart*.

⁷² Eriksen, p. 18.

and of specific situations, and by inference from arguments drawn from different sources, insights have deepened and the possibility has arisen to make more generalised predictions. In legal reasoning, both induction and deduction are part of the traditional method, as will be shown below.

Several of the methods employed have instrumental value in their own right, but they also complement each other. As an example it is worth mentioning the synergy effect between the traditional methods used in studies of law and of anthropology (and sociology). As mentioned, I spent quite some time in the field – not only to collect legal material but additionally to understand the conditions under which the Indian legal system and culture work and function. This has given possibilities to make my own personal observations related to water use and everyday practices, to people’s conceptions of rights and justice, and to rhetorical and political manoeuvres.

The methods and empirical material used are treated below. A general part is followed by a part on the legal empirical material and the methodologies used to collect and interpret it.

2 Methodological paths and tools

2.1 *Presence without pretence: choosing Bangalore*

“The real issue is not whether the fieldwork method is valid and scientific compared to other methods. After all, all methods are tools. The real issue is to mark out the precise role for fieldwork in the gigantic goal of cultivating meaningful, sensible and useful knowledge about a large, complex, and rapidly changing society such as India”.⁷³

This study involves an analysis of Bangalore city with its peri-urban and immediate rural surroundings. A decision to frame the study geographically in this way was taken for the purposes of illustration and delimitation. By investigating a particular place or setting in some detail, I sought to obtain a material reality against which to analyse abstract issues such as the role of law in improving access to drinking water. Furthermore, my own understanding of water access and supply problems, as well as of institutional decision-making, could only be deepened through making hydrogeological and administrative limits, jurisdictions, and other relevant spatial information visible. To comprehend, e.g., the question of water transfer and diversion schemes, one needs to take into account the interface between the urban, peri-urban and rural dimensions. Awareness of catchment-area and basin-wise approaches builds on such comprehension, and on the possibilities to visualise such data and give them a kind of meaning.

The choice of Bangalore generated a number of questions about specific conditions, as well as providing particular answers. The study enabled me to support

⁷³ Srinivas, p. vi.

various reflections in a real situation, one that was dynamic and subject to highly relevant changes. Most important was the prospect of looking for perceptions, practice, and the ‘law in action’ beyond the ‘law in books’. From this I could answer questions on the *role* of law and rights as an instrument to improve access to water, and better understand the *impact* that various legal norms and provisions have in reality.

I initially told myself that such a study could probably have been performed in a number of other countries or cities: there are unfortunately too many places where the circumstances and problems outlined in the previous chapter prevail. However, as the empirical data piled up, it became evident that the Indian situation, not least in terms of the legal system, is most unusual, and that Bangalore is also one of a kind. Bangalore is hence not entirely representative of an Indian city, or even of a city in rapid transition – but there are many factors from which to draw generalised conclusions, as will be clear throughout the study.

What, then, made me choose Bangalore? As is so often the case in research and science, coincidence and contacts came to be decisive. Initially, long-standing cooperation between Professor *Jan Lundquist*, then at my institution, and his counterparts in India, led me to the southern part of the country.

From insights drawn during the first year or so, the question of a reliable local partner became more pertinent. An important factor behind ending up in Bangalore was that I found the National Law School of India in Bangalore, and then became affiliated with *Oxfam India* (which changed its name to *Svaraj* in 2005). This rights-and-equity-based organisation has its head office in Bangalore and is working on a water programme in the *Arkavathi* sub-basin to the north of the city, on research in connection to food security, on strengthening community identities, and on the understanding of water as a fundamental human right.

As the study developed I decided to concentrate it geographically to Bangalore and its immediate vicinity. This had to do partly with my attempt to pinpoint some interface issues between the urban, peri-urban and rural. I early found it important to take a larger perspective, not only to focus on village *or* city level; it became obvious and visible how the urban and the rural are inter-connected spatially and time-wise (with the growing peri-urban areas in between) and that there was a need to treat water rights issues likewise. Since Bangalore is growing so fast that former rural sites would become peri-urban, and even fall inside the administrative city limits, within the time of the study, it fitted well for the purpose.

Work on the dissertation made me spend altogether almost a year in India during four visits, each between two and five months long.⁷⁴ As *Mats Hannerz* describes, it was “a matter of being there – and again! and again! – returning to a known although probably changing scene”.⁷⁵ I needed a certain level of understand-

⁷⁴ I also made a two-week pre-study in 2003.

⁷⁵ Hannerz, p. 213. All in all, the inspiration comes from the discipline of anthropology. *Bronislaw Malinowski* established the method of collecting information through fieldwork and participant observation in the early 1900s. The researcher should preferably reside in the area together with

ing before I could begin to interpret what I experienced and read, and this in turn required me to spend time in the area at large. Drought, floodings, everyday scarcity, insufficient infrastructure and scattered institutional frameworks for access and supply are something one can perceive quite forcibly during the first couple of days in India, even as a privileged foreigner to whom water and food security are normally non-issues. Nevertheless, countless aspects of Indian culture and the general system (including the legal) made sense to me only after many months in the country. Other facets may not become clear to me in a lifetime. In any case, the benefits of having been present cannot be overestimated, and this goes especially for the possibility of carrying out the research at several different locations in and around India, though with focus on Bangalore.

2.2 Interviewing and observing

Few standards and methodological procedures are common for all qualitative interviews. This variety reflects “the spectrum of human conversations”.⁷⁶ In the present study, several techniques were combined to collect data, impressions, descriptions, narratives, opinions and meanings. The design varied according to what kind of material I thought I needed to answer my specific research questions and to prompt new reflections – and according to what was practical. *Semi-structured interviews* were suitable and their number was relatively limited (just under 30).⁷⁷ Numerous ‘unstructured’ conversations also took place, and both kinds of encounter were supplemented with general observations made *in situ*.

For the interviews conducted in villages, peri-urban areas and slums, informants were often chosen via *sampling*, “a way of deciding from whom, within a larger population, one wishes to collect information [that] allows the researcher, depending upon her or his purpose, to deal with information from a set of people representative of the population, or a set of people which represents various specified kinds of diversity, whether economic, religious, linguistic, generational, or gender”.⁷⁸ The informants were thus not necessarily chosen for their general representativity. Some were picked beforehand because they had certain positions and decision-making powers – a *fair selection* which was biased in the sense that I intention-

the people under study, for at least a year, communicate with these informants in their own language, and aim to grasp their points of view on everyday life. The ideal might still be to conduct observations during a prolonged time-frame, but its the length can be a matter of months and the participatory element can be carried out in a number of ways apart from staying ‘in the field’, such as following a group or a system via Internet. Furthermore, multi-site ethnography is now accepted, the goal seldom being to study an entire population or a full range of aspects – and there might not even be a ‘holistic ambition’, Hannerz, p. 209. Cf. Gupta & Ferguson.

⁷⁶ Kvale, p. 13.

⁷⁷ Some of the interviews were made with groups of people, but counted as one. Most of the material from around ten interviews, made during January-February and December 2005 in villages in Duddaballapur and Devanahalli, was lost due to a computer hard disk drive crash. These interviews are not therefore listed in the bibliography and not referred to.

⁷⁸ P.C. Salzman, p. 365.

ally sought to meet women. This was supplemented with the *snowball* method; via referrals from, e.g. initial informants to generate additional participants. The drawback of both methods is that the sample will fail to represent a good cross-section of the population, as those well-connected within a network are favoured.

Another way of finding informants was by entering a residential area – including slums – in a part of the city or a street that I or my interpreter had been told about (a kind of snowball effect again).⁷⁹ Usually, many women and children are around during daytime. My prime aim was to gather information and personal narratives about the conditions for water supply, what strategies were employed for attaining access to water, and what people thought and knew in relation to these issues. I also wanted to look closer at houses and huts, and see whether wells, standposts and/or taps existed.

For some of these interviews I sat down with one or several persons for a couple of hours, often in their living or working environment, and let the conversation circle around the particular theme. At other times I walked around, asking various persons about how things such as water supply were organised and perceived to work in the neighbourhood. I felt free to improvise around the answers and topics that came up, and to continue with follow-up questions when necessary. Sometimes I had prepared sheets that I filled out. These sheets, and hence the questions asked, mostly started with basic data such as name, age, family situation, housing, how long the person had lived in that place; main occupation and income opportunities. Depending on how the discussion developed and how willing to talk the person was, I sooner or later went on with more open-ended, in-depth questions, or went on to talk to someone else.⁸⁰ I relied on my intuition regarding whether enough trust and rapport had been established before beginning with the interviewing as such, and did not encounter any difficulties in ‘getting access’ to my informants.⁸¹ Now and then I got rather monosyllabic answers, or felt that informants seemed eager to give idealized descriptions of their own achievements. Cultural differences, perhaps, but I might also have been perceived as someone who wanted to

⁷⁹ During the first field trips I assumed I needed a guide from any of the NGOs working in the slums and knowing people there. However, no-one wanted to take a white researcher, maybe because this could have affected their own credibility. I respected this and it was not until the last field trip that my interpreter and I realised that there was no need for a guide to introduce me and the aim of my study.

⁸⁰ Some interviews were conducted in villages during the third field trip, with help from members of *Oxfam India/Svaraj's* Arkavathi team. These helped me immensely in understanding the conditions of village life, and to compare the intentions of the legislator behind the law on *Panchayats* with what applied in these villages. In the end these interviews were not included due to the way in which the study as well as the city progressed and changed.

⁸¹ The areas I visited in and around Bangalore are not very backward in comparison to the remote rural environment one can find in Indian villages. Dressing as I did in *salwar kameez* like modern Indian women in the larger cities do helped me to be accepted. In addition, being a vegetarian earned me many appreciative comments.

check on what they had attained.⁸²

The representatives of authorities and administrative departments whom I met in the urban and peri-urban areas were, with two exceptions, men. I generally posed individual questions that related to their functions and tasks, and the mandate and objective of the authority; but also about their own views. I mostly approached these informants directly, via telephone, e-mail, or at conferences and the like, but more often I simply turned up or was shown into an office or introduced to a person by someone else.⁸³ I met officials at several levels, including people elected to the municipalities at ward level (the equivalent of the *Panchayats*, elected village councils) – in Bangalore, and in *Duddaballapur* in the northern outskirts. I also spoke to officials and researchers in Chennai and New Delhi and elsewhere.

Apart from the semi-structured interviews, a large number of informal conversations and discussions took place, in all sorts of situations and locations. ‘Ordinary water users’ constituted a target for many questions: just about everyone I met could be subjected to informal inquiries. A number of peoples working in public institutions, universities, and NGOs thus provided me with interesting facts and perceptions.

The observations I made in India generated fundamentally important insights. Both people and things (and cows!) were watched, listened to, or overheard as I rode the local bus or took an *auto rickshaw* to the office, walked around the streets, visited institutions and authorities, rode to ‘the field’, and so on. In this way I learned about so-called illegal tapping from rivers, private water deliveries via tankers and bullock carts, lack of public taps in the cities, and other dimensions of people’s everyday practices, conduct and values. In this respect I did not feel that ethical considerations would oblige me to tell the people explored that I was doing research, although such ‘hidden’ or unobtrusive observations do not give the objects of investigation a chance to refuse to take part.⁸⁴ I justify this by noting that the observations were made in public places.

Living as a ‘PG’ (paying guest) during my two longer field periods in Bangalore further brought unique opportunities to follow upper- and middle-class families who were aware of water and energy issues in their (our) daily practice of storing and conserving water, boiling or otherwise treating what was needed for drinking and cooking, struggling with water and electricity cuts, etc. Generally, this afforded observations of a non-systematic and indirect kind, but many of my study-related

⁸² One reflection afterwards relates to *Steinar Kvale* who asserts that “[t]he qualitative research interview is theme oriented. Two persons talk together about a theme *that is of interest to both*” (emphasis added), p. 29. I am not convinced that all of my informants actually took much interest in the topics that were of concern to *me*.

⁸³ Contrary to what could be anticipated, I was almost always welcomed without much delay and had relaxed discussions with the officials who expressed happiness in that I took interest and had knowledge in the field. Being a white, well-educated and outspoken – yet traditionally dressed – female seemed to be of great advantage in these situations.

⁸⁴ Eriksen, p. 15.

topics were also discussed with various family members. Both kinds of information fed my understanding in an invaluable way.

I followed the pertinent development of events in Bangalore till early 2008, but my last field trip ended in February 2007.

2.3 *Interpreters and interpretations*

An important aspect of the interviews was working with interpreters to communicate with the interviewees. In the villages, some of the women I met could understand a little English, but practically no-one spoke it. This was what I had expected, since several of them were taking literacy classes as part of their *Panchayat* training. When talking with informants in municipalities at peri-urban level there was also sometimes a need for translations. In general, these women spoke or could at least understand several idioms, but English, the language of the imperialist rulers, was not among them.⁸⁵ Relying on translators might result in greater difficulty in establishing rapport, and the risk of misinterpretation and distortion in the translation and analysis process also becomes greater when working with a ‘third’ ear and mouth. Conversely, and positively in my case, the interpreters assisted me as cultural and contextual guides. I chose to work only with female translators, believing that this was a prerequisite for making the women I met more relaxed.⁸⁶

Another methodological aspect of interviews concerns “how to conserve the responses, for memory is weak, notes are selective and transcription of verbatim recordings is usually unmanageably arduous or expensive”.⁸⁷ Some of the conversations were audio-recorded, either instead of taking notes or to supplement writing. However, I found that the recording was often practically useless – mostly for audible reasons such as that there were disturbances from a loud fan in the room, heavy traffic or other noise, or surrounding people’s voices mixing with my informant’s.⁸⁸ At times I refrained from recording because the subject discussed was (perceived as) too sensitive. In addition, and maybe more importantly, I sometimes felt that my relatively expensive electronic gadgets might create a barrier between the people I met and myself. I often chose to rely on my memory and notes, including field notes and random diary entries – and to risk not having exact accounts of what had been said – rather than using the recorder.

The analyses and interpretations of the interviews, conversations and observations followed an eclectic, *ad hoc* ‘method’. This is the most common, according to *Steinar Kvale*, and it implies that “[a] variety of commonsense approaches to the in-

⁸⁵ The fact that knowledge of the languages of the southern states – the *Kannada* of Karnataka, *Tamil* of Tamil Nadu, *Telugu* of Andhra Pradesh, and *Malayalam* of Kerala – was so common where I was, together with the fact that Bangalore is a city with many immigrants from the neighbouring states, made me give up my ambition to learn basic phrases in ‘the local’ language.

⁸⁶ Initially I aspired to find translators from the same communities as the informants, but I soon realised that this was a futile attempt.

⁸⁷ P.C. Salzman, p. 366.

⁸⁸ As mentioned, I also learnt the hard way how data tends to get lost every time the computer hard disk drive crashes.

interview text... can be used to bring out the meanings of different parts of the material".⁸⁹ It is indeed a comfort to have such an authoritative scholar as Kvale acknowledging, even allowing, an analysis technique that does not make believe that everything is (can be) altogether organised. Although most research is probably pre-systematised in that there is a plan for dealing with all the collected data, the insight might eventually come that the wide range of informants, settings and more or less messy information calls for an equally wide approach to the mode of interpretation. I believe I followed Kvale whole-heartedly in seeking to bring out various meanings without applying certain methods staked out for this purpose.

The literature suggests that the relationship between a particular verbal response and some other, non-verbal behaviour may be unclear.⁹⁰ Informal conversations and discussions may further give responses that vary with the researcher, the setting, the occasion and even with the interpreter. The concept of 'translation' becomes important here; the researcher's analytical and often very abstract concepts must be connected to the 'alien' social and cultural world being investigated.⁹¹ Interview outcomes will always be subject to the interviewer's own tacit pre-/understandings and situated knowledge: there can be no such thing as an unbiased interpretation. In studying life-world phenomena closely connected to the informant's everyday reality, one has to be impartial towards other people's own, personal, perceptions of 'the truth', thus respecting different statements as relative, localised claims that make up representations of discourses. All the same, this was one of the methods I used to reach knowledge, to reach *my truth*.

A decisive factor for conducting interviews and observations such as the present ones is a guide to and/or an interpreter of the unfamiliar physical, cultural, etc., environment. This was made possible through devoted people working with *Oxfam India/Svaraj*. Throughout my two long field visits, I was blessed with a multilingual person whose background was very diverse and who, not least importantly, gradually took as much interest as I myself did in many of the issues under study. As well as functioning as a good driver, she had the invaluable capability to take initiatives. Nevertheless, this kind of person can probably not be found through methodology or even long experience of conducting interviews. It comes down to surrounding oneself with a good network, and to sheer luck.

2.4 Material from other sources

As well as information gathered as described above, I have made use of newspaper cuttings, foremost from the Indian daily papers *The Hindu*, *Times of India*, and *The Deccan Herald* (mostly the Karnataka editions); maps and atlases, photographs, statistical data, official documents issued by governmental bodies – including the mandates and authorisations empowering these bodies – pamphlets and conference material, etc. Textbooks, scientific articles (some of which peer-reviewed) and lit-

⁸⁹ Kvale, p. 193, and *cf.* pp. 203f.

⁹⁰ Salzman, p. 364.

⁹¹ Eriksen, p. 24.

erature contributed in the conventional manner – and magazine articles and contemporary novels have given insights into the Indian culture of today. Various encyclopaedias have been used, including Britannica and the daily-improved Wikipedia, and a range of other sources readily available via the Internet.

I collected maps, master plans, watershed atlases, etc., on Bangalore and its surroundings from bodies such as the *Karnataka State Remote Sensing Applications Centre*, the *Central Groundwater Board*, the *Karnataka Government's Department of Mines and Geology*, and the *Bangalore Development Authority*. Many but futile attempts were made to find maps in which both administrative borders and hydrogeological conditions were marked.

In addition I needed information about hydrogeology in general and the Bangalore area in particular, to help me in my contextual analyses of the applicable groundwater law. I found one scholarly book of recent publication date but containing almost-outdated information and received only little help in the libraries of the departments concerned. In New Delhi, I was told by one of the Heads of Department at the Central Groundwater Board, that they sent all their hydrogeologists to the U.S. for educational purposes. As knowledge of hydrogeology is rather universal I ended up taking an academic course in groundwater management at the Royal Institute of Technology (KTH) in Sweden, supplementing this with what I could find about the hard-rock conditions that prevail in Southern India via knowledgeable people at the *Geological Society of India*, situated in Bangalore.

In the highly sensitive case of the Kaveri River, one of the few facts that seemed undisputed was that the Disputes Tribunal was set up in 1990. In my search for general and specific data on this whole matter, variations to practically all the facts were discovered and this, naturally, affects the views taken and the conclusions that can be drawn. I perceived the reliability of sources such as the mass-media and various web pages as low to medium-high, and attempted to consider who the informant was. Yet I did not want to dismiss these sources, partly because there was very little clearly unbiased material to be found, and partly because articles in the media, in Wikipedia, etc., represent the information which the general public get hold of, and from which they form their perceptions.

3 Researching law

3.1 *Introductory remarks*

“Legal science implies a legal method, in that there can be no science without method... [but] If science is a constructed representation of reality, how do the methods and procedures of science relate, if at all, to reality?”⁹²

‘Jurisprudence’ can be seen as the theory and philosophy of law, concerned with, among other things, the question of how to acquire knowledge of ‘law’ and ‘legal

⁹² Samuel, p. 95, with references.

systems' – concepts that in turn lack set definitions. It is generally held that every (democratic) society needs some degree of predictability, and under the *rule of law*-ideology the courts' application of law shall satisfy standards of uniformity, foreseeability, etc. by following a number of methods and rather technical established principles. Much of the methods for analysis within and outside the courtroom centre on *legal sources* of knowledge and argumentation, and the weighing of these. These methods have developed largely in relation to dispute settlement and, ultimately, in the court situation in which judges decide the case. The academic jurist must, however, use a range of methods in addition to the conventional rules of interpretation. As will be described, it was imperative for the present purposes to collect various forms of legal material via a combination of methods.

In this section, the methods used will be addressed along with aspects of a 'traditional' legal method, e.g. the definition and ranking⁹³ of the legal material into *primary* and *secondary* sources. Aspects of jurisprudence are analysed in Chapter IV below, including how legal positivism determines the frameworks for construing statutory rules, and the role of natural law in relation to a human right to (access to) water.

Before discussing the methods for researching law it will be necessary to point out that there have traditionally been large distinctions between the two major legal traditions known as *common law* (Anglo-American) and *civil law* (the Romano-Germanic law of continental Europe). These differences have emerged mostly in terms of historical genesis, fundamental principles and procedures and primary authoritative sources. The basis of common law is the body of binding *precedent*, created by judicial decisions in individual court cases and embodied in various case reports and records of past trials. The basis of civil law is the *codified* binding rules enacted by legislatures and mandated bodies in the form of statutes (acts, rules, by-laws, etc.). The often quite abstract rules of the latter system are applied and interpreted by judges and legal scholars; but interpretations from courts are not formally binding.

Today, no jurisdiction probably applies a strict common-law approach; bodies of written law enacted by the legislator will be found in the area of public law (which governs the relationship between the individual and the state) and most likely also for the regulation of modern problems such as environmental protection. In other words, what used to be common-law systems are nowadays 'mixed' systems of law. This approach is visible in both the United Kingdom and the U.S.A., although their systems are still characterised as *founded* on common law. Simultaneously, the role of court decisions becomes of yet larger weight in many fields of the civil law culture.

India is an example of a system that, as a whole, has in fact always been mixed. During colonial times, English common law was imposed on an indigenous system

⁹³ Certain principles have developed concerning the sources' relative importance. E.g., according to one maxim a more specialised and precise statutory rule takes precedence over another, more general, in case of them being contradictory (*lex specialis legi generali derogat*).

which already consisted of customary law, religious norms (so-called personal law) and local rules. Even prior to India's Independence in 1947, the English Crown adopted statutes in various fields. This mixture was later to be influenced by features of the civil-law system. This is noticeable in for example the adoption of the Indian Constitution in 1949 and in the incorporation of international principles of law into Acts of the legislature. The bulk of Indian law stems, however, from court decisions. As will be shown, the human right to water in India rests on the Supreme Court's interpretations of an abstract Constitutional provision.

3.2 Primary and secondary legal sources

Most legal systems distinguish between primary and secondary legal sources, although these terms are defined differently in general jurisprudence in comparison to, e.g., the law of the European Union. As mentioned, the primary source of legal knowledge in common law is the bulk of binding precedents (case law, judicial decisions). When statutes and regulations have been enacted, they constitute another primary source. Correspondingly, the very primary source in civil law is the statutory, codified rules and regulations, including administrative decisions. In addition, civil law contains primary sources that are not binding but considered as authoritative. Foremost amongst these is case law.

Secondary sources are used in both civil law and common law to guide jurists, lawyers and judges concerning what the words and language of a primary source are generally to mean. Commentaries, dictionaries, hand- and textbooks, and legal encyclopaedias are invaluable in this regard. (Legally) non-binding directions for interpretation can furthermore be gained from preambles to the statutory text. In some countries the *travaux préparatoires*, preparatory work to statutes, are recognised as a secondary source for understanding the legislator's intent or the purpose of the legal text (it is probably only the Swedish legal system that accords the preparatory works, *förrarbeten*, binding status). Customary law (legal custom) can be a primary or a secondary source, depending on the legal value ascribed to it *ad hoc* by a court.⁹⁴

Doctrines and maxims ("the teachings of the most highly qualified publicists of the various nations" as the Statute of the International Court of Justice, Art 38 formulates it) can further function as a subsidiary means to determine the applicable rules of law. Writings of legal scholars are often found in peer-reviewed (or equivalent) articles and other academic treatises.

For the purpose of this study, secondary sources such as *Halsbury's Laws of England*, *Halsbury's Laws of India*, and Divan & Rosencranz's *Environmental Law in India* are some of the handbooks and textbooks that proved fundamental as starting points from which to seek further information. The *Stanford Encyclopedia of Philosophy* was also very useful. I further found and collected a number of primary sources. Some court decisions could not be located, though, and I had therefore to take information about their facts and *ratio* from secondary sources mentioning them.

⁹⁴ 'Customary law' is discussed in relation to 'local customs' and 'practices' in Chapters IV, VII and X.

The primary sources include, but are in no way restricted to, the following:

- the Indian Constitution, and various Amendment Acts to it;
- statutory law and regulations, e.g., the Indian Easements Act, the Karnataka *Panchayati Raj* Act, the Water (Prevention and Control of Pollution) Act and various Government Orders and Notifications;
- principles of international law, e.g., everyone’s right to life as laid down in Art 3 of the Universal Declaration of Human Rights;
- precedent, non-authoritative case law, Tribunal and other decisions.

3.3 Traditional versus empirical research in law

One point of departure for this study has been to analyse ‘law in books’. Equally clear from the outset, however, has been the need to complement this with an understanding of ‘law in action’. Research on what the law *says* is often done according to the ‘black letter’, dogmatic, school of legal positivism. Opposed to this stands another school, to focus on what the law *does* in its wider, social context.⁹⁵ To examine the implications for, and effects on, citizens of a society’s formal rules and legal practice requires an empirical approach to the material. A broader perspective is also essential to make clear the disparities between the law as depicted in positive law (in statutes, court decisions, commentaries and textbooks) on the one hand, and everyday reality (how legal institutions and practitioners conduct themselves) on the other.⁹⁶ By applying such an approach here, I have sought to relate the relevant rules and practices to the legislating actors/the judicial decision-makers, the implementing institutions, and the subjects affected.⁹⁷

Legal material is normally collected via libraries and archives at law schools and courts, via the internet and at specialised bookstores. The methods used by legal empiricists depart from the traditional ones in that inspiration is drawn from sociology and anthropology. Interviews and observations are hence common. In addition, archival documentation other than the regular legal sources might be searched for.

In short, the traditional legal method is equivalent to finding, investigating and applying the relevant legal sources of law to an identified problem, according to certain systematic and practical steps. The process – legal positivism in action – employed for the present study can be summarised as follows:

⁹⁵ Cf. Baldwin & Davis pp. 881ff., who link the origin of the empirical approach in legal research to the emergence of the ‘realist’ school of jurisprudence. They point out that empirical studies have most of all influenced the sub-disciplines of criminal and family law, other public law, and investigations into the notion of justice. Empirical researchers in law often have other than legal backgrounds and hence contribute to the multi- or inter-disciplinarity of the field.

⁹⁶ *Ibid.*, p. 886.

⁹⁷ Dworkin 1986, p. 13, defines the ‘internal’ point of view when studying law as being that of “those who make the claims”.

1. Identify the dispute or other question at stake and formulate the inquiry to be solved, e.g.; ‘do the citizens of Bangalore have a (legal) right to ‘drinking water?’’
2. Locate and find the relevant sources of law:
 - a. Begin with secondary sources regarding the situation in common law, and the detailed handbooks etc. that cover the field. Location: libraries.
 - b. Continue by locating the relevant and valid primary sources. The modern lawyer does this via electronic databases such as *Pointlex*, *Manupatra*, and *Westlaw*, which contain all recent bare acts (full text statutes without added interpretations) and precedents. Libraries and courts should keep official printed editions (none of the libraries or courts I visited in Bangalore and New Delhi had all the resources and material needed).⁹⁸
3. Read and update pre-existing knowledge on the issue in question. For instance, after finding that ‘drinking water’ is subject to a specific definition it is inferred that not all water counts as fit for ‘drinking’. And so on.
4. Interpret and analyse the sources, using various methods of interpretation. E.g., how far is the word ‘potable’ to be stretched?
5. Apply the valid rule/s to the dispute or (research) question.

This is what learning how to research and practice law is essentially about: acquiring the legal method and becoming familiar with the paths towards plausible argument. However, if step 2 above seems easy on paper, this is seldom the case in reality. Initially, there will be practical setbacks such as the discovery that the databases and/or libraries have but little in the very narrow field of one’s specialisation, or the books supposedly on their shelves have gone missing. One can also conclude, either at an early stage or after years of research, that what is available both in terms of primary and secondary sources is neither rich nor accurate but rather misleading because, for instance, situations or conditions have changed.

This and much more I experienced when carrying out this study. Thus for example when researching Indian law relating to groundwater, I found very few cases and explicit statutory provisions that were applicable to contemporary requirements. If a court case was found, the next difficulty was to locate it. One discovery was that even the National Law School of India University (NLSIU) in Bangalore, the country’s most prestigious, has a relatively limited library – clearly due to lack of funding – which negatively influences the possibilities of conducting thorough research there. However, I received plenty of help from the librarians as well as from people at CEERA (the Centre for Environmental Law Education Research & Advocacy) at the NLSIU. As I visited the Supreme Court and the Indian Law Institute, both in New Delhi, on a couple of occasions, several cases and other material were provided to me there. However, some of what I needed could be found only

⁹⁸ The National Law School of India University, Bangalore, and the International Law Institute, New Delhi, were my primary libraries. Precedents were also found at the Karnataka High Court in Bangalore, as well as the Supreme Court, New Delhi. I also spent one month at the Institute of Advanced Legal Studies in London.

in London: at the School of African and Oriental Studies (SOAS) and at the Institute of Advanced Legal Studies. Finally, I could not have succeeded without three well-functioning websites: the Swiss-Indian International Environmental Law Research Centre (IELRC);⁹⁹ American E-Law;¹⁰⁰ and an Australian server with Supreme Court decisions from the Commonwealth area.¹⁰¹ From these, I could download judgment reports in full-text as well as bare acts.

The fifth step in the simplified methodological instruction above is the key to filling the gaps. The basic features of this methodological step will be treated in the next subsection.

Lastly here, a few words are warranted regarding my attempt to collect empirical material on the discourse on *de facto* water rights. In my understanding this discourse predominantly relates to water for irrigation purposes. Advocates emphasise the importance of acknowledging local practice as ‘rights’, parallely with *de jure* water rights and often as a result of negotiations. The discourse is pursued among many legal anthropologists and -sociologists and is therefore discussed along with social norms and local custom in Chapter VII. Although the discourse may be of little practical significance to the Bangalore situation, it was seen as relevant for the general discussion of water and rights. I enquired after relevant customary practices as well as such valid as ‘customary law’. However, it fell outside the ambit of this study to conduct any dedicated field research on the matter. Eventually, all I found was a story about a tank in a village: when the water in it had been drained to the point that a particular rock became visible over its surface, the remaining water was reserved for drinking purposes only. This local custom had been always followed by the farmers, the story goes, but nowadays the drought has changed everything.

3.4 Interpretation – the essence of legal research?

Law – whether dealt with theoretically or practically – necessitates interpretation. This component has been central to legal thought for a thousand years and it can thus be contended that law needs a specific form of hermeneutical approach. Few provisions of statutory law are clear enough to be applied upon the first reading – they have to be subjected to a thorough analysis in several regards – and neither are the *ratio decidendi*, the binding grounds and reasons for a judge’s decision in relation to the facts of a particular case. The *ratio* is equal to that which is held in a judgment, also called ‘the holding’.

There are methods developed both for the initial examinations of relevant prerequisites and for the interpretation of whether specific words and terms are applicable. Each legal system tends to have its own standards, and there are distinctions between the civil and the common law systems. To the extent the latter includes statutory law, the major approaches to their interpretation have developed via court

⁹⁹ <http://www.ielrc.org>.

¹⁰⁰ <http://www.elaw.org/>.

¹⁰¹ <http://www.commonlii.org/in/cases/INSC/>.

decisions. Regarding civil law, the norms for interpreting statutes as well as case law are found in doctrinal works and in text- and handbooks.

As a point of departure, wordings and grammatical construction should be interpreted in a strict and objective way; the Literal Rule. If one chooses to go beyond literalism, there is a need for extrinsic aids to interpretation – consisting of everything that is not found in the statute (or precedent). A subjective interpretation puts more emphasis on the legislator's intent and the contextual background to the enactment of a statute or decision in a case; the Liberal Rule. In the Purposive Approach, or teleological method of interpretation, importance is attached to the function and objective of a rule. The actual wordings of a section or article can be interpreted in an extensive or a restrictive manner, and analogies can be made with another section or court decision, applying its rule in the case at hand. Further, arguments can be derived *e contrario*; from the contrary position of what is regulated.

The common law system contains strict norms for the interpretation of precedents, the decisions which establish judicial rules and principles. The doctrine of precedent, called *stare decisis* ('stand by decisions'), is fundamental to the common-law system. Accordingly, precedents are to be upheld and once a decision on a certain set of facts has been made, lower courts are not to depart from it in 'similar' cases which subsequently come before it. In later litigations it must thus be determined whether identical or similar facts and issues are involved.

India has eighteen High Courts under the Supreme Court, the apex of the hierarchy.¹⁰² The main principle is that every decision of a superior court binds inferior ones. The law declared by the Supreme Court is *absolutely authoritative* and hence binds all courts in India (Constitution, Art 141). A Single Bench (lone judge) of a High Court must further follow a Division Bench decision of the same court (e.g., the Karnataka High Court); and a Division Bench must follow a Full Bench. A Single Bench decision is, on the contrary, not binding on a Division or Full Bench of the same court; this precedent is only *conditionally authoritative*.¹⁰³ Decisions of one High Court do not bind other High Courts but are entitled to respect if the reasoning behind them is sound and cogent; therefore they are *persuasive precedents*. To this category belong the rulings of English, American and other courts.¹⁰⁴

A previous case is binding only as to its *ratio decidendi*. The judgment may also contain *obiter dicta*, extraneous judicial opinions and observations that are merely informative or explanatory, on points which did not necessarily arise in the case. *Obiter dicta* do not therefore establish binding *law* but may be followed if sufficiently persuasive. However, it is not always uncomplicated to determine whether a specific statement is a *ratio* or simply a side opinion.

The above can be summarised so, the *stare decisis* applies to the holding (*ratio*) of a case, rather than to *obiter dicta*. Whether or not courts are bound by precedents,

¹⁰² There are also District Courts and Courts of Small Causes.

¹⁰³ Such a precedent is liable to be disregarded in certain circumstances. For instance, a Division Bench cannot dissent from another Division Bench decision, but can overrule it.

¹⁰⁴ A.R. Biswas.

judges in all legal systems are aware that the need for reasonable certainty and predictability requires that like cases be treated alike. The doctrine of precedents contributes to predictability: there is a legal solution applying and to be expected in a given situation henceforth.

One thing that characterises legal research is that the work material, the information and data available is rather full – of holes. The lacunae appear gradually as the legal landscape unfolds before the lawyer. The perpetual search for ‘solutions’ to actual disputes as well as for ‘the truth’ behind hypothetical and purely academic problems will further be much the same regardless of which sub-discipline or legal system one deals with: no society has ever been able to deliver a set of rules that covers every aspect of human behaviour – and few would even want to. Also after revision of a particular act or a major reformation of a whole area of substantive law, there will be questions left unanswered – because the legislator was not able to foresee all situations or might have wanted to leave certain room for flexibility. The same applies even after a precedent has been decided, because judges can only make binding rules in relation to what is at hand in cases brought before the court, on the facts set before them.

Hence, unregulated issues and less clearly regulated fields will continue to exist, and when there is scope for interpretation there is also a need for systematic troubleshooting. Apart from the authoritative sources, legal reasoning can be based upon other and freer arguments, including aim and intent, and weighing of the means to the end. Ultimately, a judge may need to arrive at a decision based on her or his own discretion, which is in turn founded on experience, general awareness of society’s and the legal system’s inherent values, and intuition. Indeed, legal reasoning is about argumentation, but it is not a process in which the analyses of some premises can be seen as ‘valid’ by all parties.¹⁰⁵ Law and legal methods contain an important element of valuation and assessment of ‘facts’ and propositions. The scientific aspect lies in the methodical, systematic, and transparent application of law, and in the dynamic development that law can undergo in order to be attuned to societal needs for change. We will return to this foremost in Chapter IV.

4 (Self-) reflections and epistemological thoughts

4.1 *Point of departure: my situated knowledge*

When conducting contemporary qualitative research, ‘epistemic (self) reflexivity’ is increasingly stressed. *Pierre Bourdieu* is one of its proponents, and a target of his reflexivity is the social and intellectual unconscious that is embedded in analytic tools and operations. Reflexivity resembles hermeneutic methodology in the sense that this method implies that there can be no such thing as an objective interpretation. It is therefore crucial that I as a researcher become aware of my prejudices, and my expressed and tacit pre-understandings of various phenomena. I should also be

¹⁰⁵ On the notion of validity as understood in positive and natural law, cf. Chapter IV below.

(made) conscious of the conditions that have shaped and continuously affect my individual and unique interpretations. In my case it would mean becoming aware of and making visible my own biases, position, and location within academia including all its different disciplines; towards the various objects of knowledge taken into account; in relation to the research choices made; and not the least in this very text. The sum of this makes up my ‘situated knowledge’. I agreed to take all of this into consideration in my work when I set out to deal with water and rights in the Indian setting.

The two things that have situated me most are my Swedish background in law and my interest in environmental questions that became active at the end of my law studies. As an undergraduate I learned the domestic legal system as well as European Community law and though the differences between the two prompted reflections, it has proved difficult to fully grasp the mixed legal system that states such as India practise. The general approach to the concept of law in Sweden – a civil-law country where rather dogmatic legal positivism predominates – is, quite naturally, very different. One reason is that Sweden, a country with only nine million inhabitants, can apply a unitary system; whereas in India, aspects such as religious laws, tribal practices and, not least, colonial remains and relics make the picture more complex. Other pre-understandings that I carried with me often made me assume, for instance, that certain maxims and legal principles could also be applied in common-law reasoning.

The environmental lawyer’s work often makes it necessary to go against the stream, that is against dogmatic, positivist interpretations of law. It also necessitates insights into the limits of natural science, such as the ‘fact’ that there are certain established axioms – for instance, chemical reactions – as well as insecurities and unpredictable, non-linear effects, as studies on climate change show. Environmental *law* can contribute by mandating the use of various tools in planning and decision-making. One of the more important tools is that due precautionary measures are to be taken at an early point – a principle that takes into account the features of insecurity and unpredictability in scientific as well as societal processes.

4.2 Standpoint epistemology

Both in today’s presumably universal academic society and in popular contexts, implicit presumptions as well as express criteria act to condition what is to be considered and valued as real and good science. This constitutes the predominant norms and standards for how to understand and explain successfully the world we live in. The norms are set out so that findings may be *considered* legitimate and thereby win the greatest possible acceptance. Certain standards and more or less well defined methods are, accordingly, preferred when gathering data and observing phenomena. This is in order to systematically transform such data into exact results, and to digest and analyse it all to reach accurate – true – conclusions. These criteria and underlying assumptions have also been the cause of some hierarchy between the ‘hard’ natural sciences, based mostly on quantifiable data, mathematical methods

etc., and the ‘soft’ social sciences. The level of preciseness and accountability is presumed to be lower in the latter, with its plethora of qualitative methods. The social sciences have thus always had to justify their legitimacy, and their proponents have held that studies to understand human behaviour and linked phenomena cannot – and should not – be rationalised in the same way as studies concerning physical objects and the laws of nature.¹⁰⁶

Sandra Harding has inspired me to rethink the phenomenon that we call science. Harding firmly believes in looking at ‘science’ and its criteria as being social, political and cultural phenomena just like any other, in order to explore how sciences and societies co-construct each other over time and space.¹⁰⁷ She has in her work shown how modern epistemology questions are internal features for the generation of knowledge, i.e. standards for maximising objectivity and rationality. Harding thus rejects this conventional and still prevailing theory of scientific knowledge, this ‘internalist epistemology’. She traces the genealogy of this label to five centuries ago and an autonomous European continent on which it was thought that its own, internal, qualities were sufficient for modernisation; that there was no need for interaction with the outside world or influences taken in from other cultures, or with other values of interest.¹⁰⁸ Since the beginnings of colonialism in 1492, these Eurocentric scientific ideals have taken shape, to be exported eventually and implemented elsewhere as part of imperialistic hegemony.¹⁰⁹

By employing a criticism based on post-Kuhnian, postcolonial, and feminist ideas, Harding asserts that we ought to revise the conventional ways of thinking about knowledge traditions of other cultures. If nothing else, this is fundamental as part of how to deal with the history, limitations and future of ‘modern’ Western science. Her thinking is in line with the postcolonial theoretical approach that focuses on the notion that, e.g., cultures are interlinked with each other and with science and knowledge, and that there cannot and should not be one true way of representing nature, nor one universally valid scientific tradition.

Harding contrasts the European sciences with “earlier European and non-European cultures’ magic, witchcraft, pre-logical thought, superstition or pseudo-sciences; with ‘folk explanations’ or other ethnosciences that are embedded in religious, anthropomorphic, and other only local belief systems”. To embrace “what are often regarded as only traditional beliefs and practices of other cultures” as well, Harding thus proposes a conceptual shift. She uses a more inclusive definition of science as referring to “any systematic attempt to produce knowledge about the... world”.¹¹⁰

¹⁰⁶ Cf. Guba & Lincoln; Widerberg.

¹⁰⁷ Harding 1998.

¹⁰⁸ *Ibid.*, pp. 5, 23f.

¹⁰⁹ The so-called scientific revolution is generally dated to Western Europe during the 16th century. A forerunner was, of course *Plato* and his analysis of ‘knowledge’.

¹¹⁰ Harding 1998, pp. 9f.

Harding has for long also been an advocate of posing research questions that are *for* women, and arise *from their* lives – ‘standpoint epistemology’. This is not the least important, she holds, in societies where scientific rationality and objectivity are claimed to be highly valued by dominant groups, simply because

“from the perspectives of marginalised lives, the dominant accounts are less than maximally objective. *Knowledge claims are always socially situated*, and the failure by dominant groups, critically and systematically, to interrogate their advantaged social situation and the effect of such advantages on their beliefs, leaves their social situation a scientifically and epistemologically disadvantaged one for generating knowledge” (emphasis added).¹¹¹

Anyone who conducts research should strive to regard that issues of ‘the powerless’, of those at the bottom of the hierarchies, provide research questions. For the experience and lives of the marginalised “as they understand them” to be visible, Harding holds, these question need to be asked.¹¹² For the researcher, this means that the multiple, heterogeneous, and frequently contradictory nature of people’s standpoints must be acknowledged, and a strong, i.e. high, level of self-reflexivity is required.¹¹³

The work on this dissertation has shown how influenced, not to say indoctrinated, I am by the claims for rationality, critical thinking, etc. that prevail in the traditions of my disciplinary background. This has been most remarkable in the way I value information from different informants and authorities, in comparison to the (written) legal material collected and analysed according to the mode described. The time spent in India itself influenced me to question the legitimacy and prudence of some theories and policies that were based on (natural) science. Further, the field visits gave many examples of how legal provisions were neither implemented nor enforced in real life; and of how the awareness of relevant, valid law was often low even among lawyers. My scepticism about the role of law thrived along with other people’s negative attitude towards it. Nonetheless, I still believe that neither law nor the notion of rights can be seen as phenomena that exist but lack meaning in society. Just as qualitative research is conducted in order to improve our understanding of human conduct, of our belief systems, and of the reasons behind actions such as decision-making, inter-disciplinary research on law and rights can help us conceive its many important functions in the area of water management, and ultimately improve these.

¹¹¹ Harding 1993, p. 54. The term ‘situated knowledge’ is originally from *Donna Haraway*.

¹¹² *Ibid.*

¹¹³ *Ibid.*, pp. 64ff.

Latha

Latha is 21 years old and was born in Old Hale Bypanaballi, also known as the Railway Crossing Slum. When the trains pass, day and night at high speed, their sound overcomes all efforts to talk. The people living in the slum's 405 households originate from Salem in the State of Tamil Nadu, and many are Christian converts. Most people who work are day-wagers earning between Rs.80-100 a day. Latha gives tuition classes to 12 children from the area for an hour each evening. She teaches English, Kannada and Tamil, and earns Rs.30 per day from this. She is not married, though many girls here marry as young as at fourteen.

– We have no drinking water supply here, no latrines, no drains. I go outside the area with the other girls and women every morning and night – twice a day – to do my needs. We cannot go during daytime as there will be men harassing us. Water that is needed for drinking we fetch by walking a kilometre to the railway quarters. We can also buy it from a building that is nearer: Rs.1 for 3 pots. Usually two pots a day per person are enough for cooking and drinking.

Water for washing is available at a common standpost in the habitation, but only for some hours in the morning and only every second day. It comes from a bore well and is salty. Latha tells us that the pump of the standpost recently needed to be repaired again and that the cost was spread among the households, which were to pay Rs.30-40 each. An elder, who functions as the leader of the area, collects the money and he keeps track of who has paid and who needed a respite until the money can be raised some time in the future. Latha's family was among the latter. The household consists only of her and her father after her sisters got married and moved in with their husbands and in-laws. No-one knows where the mother is.

The houses in Hale Bypanaballi are huts made either of mud or old bricks, and most have roofs of palm leaves. The slum was built some thirty years ago when the first group of migrants moved in, but as it lies on railway company land the inhabitants have been told that they are soon to be shifted. As far as Latha and her neighbours know, only some hundred houses have as yet been built in the new area, Ganjur Village. More will be put up, they have been assured by the elder who is working with the Congress Party. Ganjur is said to be situated in a forest, but no one has described the water facilities. What Latha and her neighbours also do not know is that the Forest Department has already said no to the suggested location. In addition, the Gram Panchayat of Ganjur holds that there is no room for some 400 families in the village, considering how it is surrounded by the protected Green Belt area. From the looks of it, this is quite true.

Few people in Hale Bypanaballi seem to worry, though. On the day of our first visit, many had gathered to get their voting cards registered by a woman from the Election Commission.

– The SaiBaba Ashram people used to send tankers with drinking water to us, but not the last month or so as we are to move location. Anyhow, we are not employed somewhere, and we can do coolie work in the new place also.

Chapter III

Water and the City

1 Introduction

The inhabitants of Bangalore live in an urban agglomeration that is expanding by leaps and bounds, and where the problems of access to and supply of water are aggravated in step with the increasing urbanisation. Population growth was over 6 percent for the period 2001-2006, with an ensuing construction boom. Though the water demand in Bangalore represents predominantly domestic needs, an increasing number of city dwellers result in new and different demands with severe pressure on the natural resources.

Bangalore's water resources are of several kinds. They consist of the tanks that were once connected into a life-sustaining network, the low-yield underground aquifers and the river which is subject to an ever-escalating conflict. Most of the decision-making regarding these resources takes place at city level; Bangalore is thus in charge of the management and has the power to improve issues of access. However, some allocation decisions are made by the State Government and at the level of the Centre. These and other actors function as various exogenous factors.

To estimate and discuss the importance of the water resources and the changes that can be expected, this chapter begins with a description of the factors exogenous to the growing, transforming city. The focus lies on the water and other natural conditions of Bangalore and its immediate surroundings.

Against the background of how poverty is defined in India and affects people's purchasing power, we then return to the issue of peri-urbanisation. Bangalore has

been undergoing a remarkable process of transformation, not least since the IT-boom made it into a counterpart of Silicon Valley. The latest step is the administrative decision to extend the jurisdictional boundary to include the eight municipalities and 110 villages.

2 Geographical data

2.1 Introduction

The rainfall over India – three quarters of which fall during the three to four months of monsoon season – is not evenly distributed, in time or geographically. Floods and droughts often occur in the same region in the same year. Precipitation is normally confined to about three-four months each year during the monsoon season, and varies between different places from 100 mm to over 10,000 mm yearly. In summer and especially when the monsoon has failed, the surface water flow is reduced to a minimum even in the perennial rivers.

As a result of an increased, general demand and a declining availability of surface water together with its deteriorating quality, the demand for groundwater has increased manifold during the past few decades. This is not only for drinking; the major consumptive use of water in India today is irrigation for food and fibre production. Where the Green Revolution has influenced agricultural practices, groundwater accounts for up to 75 percent of the irrigated area in some regions of India and it is hence of great economic importance. Further, industrial needs for freshwater – e.g., for textiles, construction, and the manufacture of bottled drinking water – are increasingly met by extraction from tubewells that are being drilled deeper and deeper.

The large variations in precipitation also affect the groundwater table and the recharge potential, due to runoff circumstances. The Central Water Commission has estimated the usable groundwater resources to 690 km³ (48 million hectare metres), of which 432 km³ can be extracted annually. The freshwater potential in total is about 1,869 km³.¹¹⁴ However, along with climate change and geological and topographical limitations, water-related conditions are altogether becoming more unpredictable.

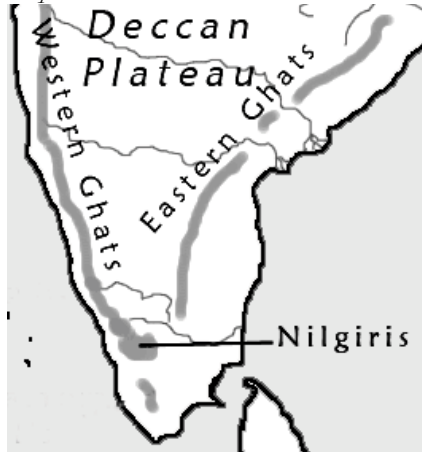
2.2 Topography

The State of Karnataka is situated in peninsular India, a triangular plateau also known as the Deccan. It has been land for at least 65 million years. Of two mountain ranges in this area, the Western and Eastern Ghats, the Western constitutes the major part of the Plateau, and the Deccan proper part is composed of horizontal layers of lava flows. The Eastern Ghats range is an irregular and discontinuous

¹¹⁴ Data from the Ministry of Water Resources' National Water Policy 2002, para 1.2; web pages of the Central Water Commission 'Water Info'; Central Ground Water Board web pages 'Knowledge base', 'State profile: Groundwater scenario: Karnataka'.

chain of elevations. The Ghats unite by the Nilgiri Hills. Some 60 km to the north-west of Bangalore are the *Nandi Hills* (*Nandidurg*), 1,478 m above mean sea level. The rivers *Pennar*, *Ponnayiar*, *Palar* and *Arkavati* originate here.

Map 3. The Deccan Plateau.



Adapted from Wikipedia.¹¹⁵ Not to scale.

Large parts of the city of Bangalore are characterised by undulating terrain. The main valleys run north-south and the city is divided into distinct drainage zones. The average elevation is 920 m above mean sea level and the highest point, 962 m, is situated on a ridge with a NNE-SSW direction.

The ridge functions as the boundary between two watersheds for the two perennial rivers, the Kaveri and Pennar. The ridge divides Bangalore so that the western third of the city drains into the Kaveri via a tributary, the Arkavathi River. This circumstance is of great importance, and we will return to it below.

2.3 Climate

India's climate can roughly be divided into wet during monsoon, and dry during the rest of the year. The southern part of the country is drier than the rest, and the Bangalore region is classified as having a dry, tropical, savannah climate with four seasons:

- winter, characterised by bright and dry weather – from December to February
- summer, characterised by high temperatures – from March to May;
- South-West monsoon – from June to September; and
- North-East monsoon/retrieving monsoon period – from October to November.

Bangalore is in a semi-arid, drought-prone region with moisture indices of less than 50 percent.¹¹⁶ The tall Western Ghats blocks the southwest monsoon and puts the Deccan Plateau in a rain shadow. Hence, nearly three-quarters of the State of Karnataka is drought-prone, annual rainfall varying from 300 to 750 mm. Bangalore normally receives negligible quantities of rainfall during summer and winter, though thunderstorms can occasionally give considerable amounts. The city receives an average of 830-970 mm of rain per year.¹¹⁷

¹¹⁵ Wikipedia web page 'Deccan'.

¹¹⁶ Ramachandra & Kamakshi, p. 38.

¹¹⁷ The sources differ greatly. The higher figure is from the Rainwater Club.

Bangalore's mean monthly relative humidity ranges from 44 percent in March to 80-85 percent in June to October. High wind speed averages 17 km/h during the westerly winds in July and a minimum of 8-9 km/h during April and October. The two monsoon seasons come with opposite wind regimes; southwest and north-east.¹¹⁸

The temperature is lowest in early January (down to +13°C). The hottest month is May when temperatures can rise to +38°C. Both global and 'local' warming affect – and are projected to influence increasingly – the temperatures of the area.¹¹⁹ Climate change will also probably affect the annual average precipitation, actual evapotranspiration and water yield for the region, leading to severe drought conditions.¹²⁰ Heavy intermittent showers are likely to become more frequent.

The forests of Bangalore are essentially of the dry deciduous and scrub types. The city has several parks, the largest being Lalbagh and Cubbon Park (about 2 km²). Bangalore has no natural wetlands but since the sixteenth century, when the city was founded, numerous tanks, ponds, dams, lakes and a connecting network of streams have been created for drinking water and horticulture. The many bodies of water functioned as reservoirs in the undulating landscape's many valleys and low-lying areas. The engineering was especially pronounced during the time when the British made Bangalore a military cantonment.

As there is no assured rainfall, dry-land agriculture is practised in a major portion of the State. The soil prevalent in the Bangalore region favours *ragi*, groundnut, mulberry, grape vine, eucalyptus and more.

3 Tanks, lakes and water supply

3.1 *Water supply: the beginning*

It is commonplace to find human dwellings in close proximity to water sources – by coasts and river banks. Transport over water has always been cheaper and more efficient than over land. However, Bangalore lies in the middle of southern India, far from a river. The city has therefore no history as a centre of commerce or trade. Nevertheless, it has existed as a settlement for well over a thousand years. The warrior chieftain *Kempe Gowda* ruled over the vast agricultural tracts and laid the foundation of Bangalore in 1537. He built his mud fort in a valley portion and the merchants and artisans that came after soon made the settlement renowned as the most

¹¹⁸ ENVIS.

¹¹⁹ According to J. Srinivasan, IISc (e-mail communication May 9, 2007) the daily maximum temperature may go up to +40°C by 2060. The number of days with minimum temperature below +13°C has decreased, while the number of days with maximum temperatures above +33°C has increased. 'Local' warming occurs due to more glass-covered, tall buildings as well as concrete grounds, and fewer tanks and green areas – all of which are the results of poor architecture and planning of city space.

¹²⁰ Cf. Gosain, Rao & Basuray's study of the Krishna River basin, which is situated north-east of the Kaveri River.

important marketplace in the then Kingdom of Mysore.¹²¹ In 1806, the English colonisers decided to establish their largest cantonment in Bangalore.

The city's undulating terrain caused water to assemble in tanks and lakes, and these assumed major significance over several centuries as sources of water for drinking, irrigation and other needs. Numerous tanks, canals and sluices were also constructed, the first already in pre-British times. Apart from its function as a drinking water supply, this man-made network of water bodies came to support mixed farming and gardening as well as low scrub forest, favourable for hunting and gathering. An intricate system linked the tanks within the same sub-catchment area and allowed for surplus water to flow over to the next tank in the chain. Very little went to waste; the principles of storage and rainwater harvesting were already well developed, and the facilities carefully maintained.¹²²

Maps reveal that very many of these tanks were situated within the city itself.¹²³ They played a pertinent role in the early beginnings of Bangalore's development, and remain important. The many estimates of how many lakes and tanks Bangalore once had range down from well over two hundred to over 120. It is equally difficult to get a unified picture of how many remain in various conditions. According to the Lake Development Authority, 46 are classified as defunct – sometimes even untraceable – and beyond revival and rejuvenation. Some are used as garbage dumps or have been reduced to cesspools, others are being shrunk little by little by the wild water hyacinth. Most, however, have been encroached upon and no longer exist in their prior form. They have been replaced by, e.g., the city bus terminus, sports stadiums, commercial buildings, residential layouts for the high strata, and slum areas. Pressure on land is high in a city such as Bangalore, the authorities explain.¹²⁴ Unlawful granting of building permits is another cause.

Rejuvenation and restoration of tanks and lakes that have silted up or been encroached upon is a much discussed topic, but it is yet to result in any coherent policy and – eventually – action, foremost in the form of desilting, deweeding, etc. The proposed work of the Lake Development Authority, set up in 2002, was called the first serious attempt in over 50 years to make the traditional system function again. The Authority endeavoured to raise awareness regarding the importance of tanks and lakes.¹²⁵ However, no public resources to maintain the lakes seem to have been forthcoming. The Authority therefore proposed that lakes can be maintained through public-private participation. The initiative to lease them out to e.g. NGOs, hotels, corporations or residents' associations on a Develop/Operate/Transfer basis never succeeded, though. One lake situated in a gated community, the luxurious Palm Meadows, was adopted by residents. A handful of others have been taken on

¹²¹ Vagale, p. 34; Nair 2005, pp. 27f.

¹²² Agarwal & Narain, p. 206.

¹²³ Cf. *ibid*; Suresh Babu, p. 39.

¹²⁴ Agarwal & Narain, pp. 206f.; Chandramouli.

¹²⁵ Department of Environment and Ecology, web page 'Lake Development Authority'.

by private companies.¹²⁶ Since 2006, the Authority seems to have closed down, though.

Meanwhile, NGOs and citizens' groups fight in their own ways for the survival of the tanks, via awareness-raising activities, media events and litigation. Bodies recently active include the Karnataka State Legal Services Authority, which functions under the Karnataka High Court; and the Legislative Council.

3.2 After the tanks: reservoirs

The tanks proved insufficient as demand grew, and sources were sought at steadily larger distances. In the 1860s, storm water drains were laid out to carry water to outlying tanks, and a sewerage system was put in place. An initial attempt to provide safe water to parts of Bangalore was made in 1873 with the construction of a new tank in the Cantonment. Apart from this, unfiltered water was supplied from a number of tanks including the *kaalyanis* (temple tanks), supplemented by dug wells. Despite the large Sankey Tank coming up in 1882 and being linked to other, existing tanks, there was not enough capacity to cater for the growing population and the city's other needs for water.¹²⁷ A famine (1875-1877) resulting in an influx of people from outlying areas added to the problem.

Public contests were held to design augmented supply schemes. Reportedly, there was scarcely a site or a tank for miles around Bangalore that had not formed part of one or another project.¹²⁸ The solution came in the first half of the 1890s, with the first 'protected' water supply scheme. The source was the Hessarghatta Lake on the Arkavathi River. Water hence began to be pumped to Bangalore from an area situated some 65 km north-west of the city. The reservoir was designed to provide up to 250,000 people with 57 lpcd, and it was anticipated that the infrastructure would be sufficient to meet the city's needs for three decades. However, already in 1922 the population had reached the ceiling and the inadequacy begun to be felt. The situation was perceived as acute by 1925-1926, when the reservoir went almost dry following two successive years with bad monsoons. Efforts were made to restore the water supply to the city by making use of various tanks. Yet another reservoir was commissioned on the Arkavathi by building a dam at T.G. Halli, downstream of Hessarghatta Lake.¹²⁹ This new scheme was inaugurated in 1936 and temporarily eased the problems of access and supply.

The reservoirs were administered and maintained by the Public Works Department (PWD), an institution established by the British in the mid-1800s.¹³⁰ After some years, Hessarghatta was handed over to the cantonment municipality, as it was

¹²⁶ Shivanand 2006.

¹²⁷ *Ibid.*

¹²⁸ Rice in Nair 2005, p. 31.

¹²⁹ Agarwal & Narain, p. 206; the Water Board web page 'Supply and Source'.

¹³⁰ The term 'public works' here refers to maintenance functions and agencies as well as the structures as such.

felt that management was unsatisfactory in the hands of the PWD.¹³¹ Water supply remained a task for the municipality until the 1960s, i.e. throughout Independence and the restructuring of the Mysore Kingdom to form the State of Karnataka, with Bangalore as State capital.

It can be assumed that the Arkavathi River and its immediate drainage area played a most significant role as the hinterland supporting the needs for freshwater in Bangalore. Urban development must have benefited greatly from the improved access that the Arkavathi provided. It contributed to Bangalore's ability to continue growing rapidly, its population almost doubling. But it soon became clear that the reservoirs would not suffice for long. In retrospect we can see how the authorities were replaced one after another, each bringing new ways of viewing the responsibility for water supply.

3.3 Modern times: the Cauvery Water Supply Schemes

To meet future needs through new sources of water supply, an Expert Committee was constituted in 1958 to examine potential sources. Among the four options were further development of the Arkavathi River downstream of the main reservoir, tapping either of two other tributaries to the Kaveri River, and distribution of water from the Kaveri itself. The Committee recommended the latter. The reasons are not known: presumably calculations indicated that a greater amount of water was to be found in the Kaveri.

During the first half of the 1960s, the Bangalore Water Board was set up. Construction of the initial stage of the 'Cauvery Water Supply Scheme' began in 1969 and the supply of Kaveri water to Bangalore commenced five years later, with a capacity of 135 million litres daily (MLD). As the demand continued to increase, work to supplement this first stage was carried out. A third stage was completed in 1993, contributing to provide a total of 540 MLD of water to Bangalore.¹³²

For the fourth extension, work was divided into two phases. The first was commissioned in September 2002. The second was planned to start in 2005 but faced several years of delay before even leaving the drawing-board. It will reportedly augment the supply with another 510 MLD by about 2011. This last stage is planned chiefly to cover the outer areas of Bangalore: water is to be piped up to the northern part of the city (Yelahanka), under a project to which we will return in Chapter VIII.

In 2007, some 810-860 MLD of water was pumped from the Kaveri, which equals 10.4-11 thousand million cubic feet (TMC)/year, or some 295-314 million cubic metres (Mm³)/year.¹³³ During 2005-2006, 923 MLD of water was supplied to Bangalore, the balance taken from T.G. Halli and the Board's bore wells. Per person, this has been held to give the Bangaloreans approximately 100-110 lpcd on average, though probably less. The raw water is conveyed through a channel via two

¹³¹ Agarwal & Narain, p. 206. The PWD is nowadays responsible only for roads and highways.

¹³² The Water Board web page 'Cauvery Water Supply Schemes'.

¹³³ BWSSB 2006, p. 1.

reservoirs and a 10 km gravity main.¹³⁴ After purification in different treatment plants, the water is pumped to smaller reservoirs in the city, and from there it is supplied to individual households and establishments by gravity and pumping through a network of smaller pipes. Individual, connected premises are required to install an underground sump as a storage receptacle, as well as electric pumps with which to raise the water to another receptacle situated on the roof of the top storey. As water is delivered only for some 2-5 hours every second or third day,¹³⁵ each household relies on these private contrivances to store water, and on gravity to transport water from the uppermost point of the building, since power supply is quite erratic.

The whole Arkavathi region has lately been suffering from drought, with the result that its reservoirs receive less and less water each year and have not been filled since 2002. The T.G. Halli and Hessarghatta reservoirs are now seen as “unreliable sources” by the Water Board, giving only some 30 MLD since 2007, and almost nothing on summer days.¹³⁶

A consequence is that the Arkavathi tributary no longer feeds the Kaveri. The problem is partly due to failing monsoon rains, and partly that the catchment area has been encroached upon, meaning that the surface soil has been hardened and replaced by houses, roads, parking-lots, etc. Rainwater harvesting structures that recharge the groundwater have also been installed at many buildings, further diminishing the run-off which could eventually drain into the river.¹³⁷

The Water Board is now offering recycled water from its treatment plants at a much lower cost than its potable water. The available water is presently meant for gardening purposes and the like where quality standards do not have to be met for health reasons but from 2008, new treatment plants offering potable water are being built. To treat wastewater and re-use it is regarded an ‘unconventional’ method, yet necessary when the demand for water from the Board is already much greater than the availability. Wastewater will be treated through an ‘ultra filtration process’ which uses cellulose membrane technology and is thereafter taken via a separate pipeline and made to blend with the water in Hessarghatta reservoir. This water will then be taken through the regular filtration process before it is pumped into the distribution system.¹³⁸ Commentators hold it will be a challenge to sell this solution, not to mention the water, to the public.

As Bangalore city is located some 500 m higher than the Kaveri, pumping takes place at three levels. Electricity costs (the power tariff paid to the Bangalore Electricity Supply Company, BESCO) form the main item of expenditure for the Water Board, amounting to some 65 percent of its budget. It has been calculated that

¹³⁴ The carrying capacity of the channel has been increased by, e.g., desludging and dewatering.

¹³⁵ The Water Board 2006, p. 12.

¹³⁶ Personal communication with Water Board engineer. January 8, 2007.

¹³⁷ *Ibid.*

¹³⁸ R. Sharma 2007.

it costs Rs.18, but maybe as much as Rs.40, to produce a kilolitre of water.¹³⁹

3.4 Summing up

We have seen that the surface-water resources available within a distance of 100 km have been developed and exploited over the past centuries in order to provide the city with freshwater. Tanks – historically of fundamental importance to Bangalore – have disappeared and focus turned to supplying water from Rivers Arkavathi and Kaveri. The former is now drying up and efforts to transport more water from Kaveri are intensifying, at steadily higher costs as the city is situated between 900 to 960 m above mean sea level. A question that arises is how planning for the future is carried out. There are certain legal aspects relating to the water of the Kaveri, as indicated. Before treating these, though, we will investigate the groundwater resources of the Bangalore region.

4 The underground reservoirs

4.1 From dug wells to bores

Where the choice for providing the city of Bangalore with water has gradually turned from the tanks and lakes to the rivers, much of the solution on an individual basis has been groundwater. On average, about half of India's urban population *depends primarily* on groundwater for drinking and other domestic purposes.¹⁴⁰ In rural areas the equivalent proportion is 85-90 percent or more. In total, 80-85 percent of the water for drinking comes from groundwater.¹⁴¹

As a result of the technical possibilities developed some 25-30 years back, which made drilling for water feasible on a larger scale, groundwater became increasingly reachable as a source of supply. Deep tubewells have more and more replaced the open, dug wells, and the dug-cum-bore wells. An electric and diesel-driven irrigation pumpset comes at a relatively affordable price, as does electricity: often heavily subsidised by the State Government in exchange for votes.¹⁴² Farmers also regularly take loans from banks or private lenders for drilling wells, and many of these entrepreneurs become heavily indebted.

In combination, these factors mean that a rapidly growing number of users are able to pump water that is available 'just in time' throughout the year, (seen as) comparatively fresh and pure and under individual control. The lack of a strong and consistently implemented regulatory structure on groundwater abstraction is another aspect that contributes to making groundwater attractive. *Navroz K. Dubash*

¹³⁹ Vishwanath 2006; Suresh Babu, p. 38.

¹⁴⁰ The Centre for Symbiosis of Technology, Environment and Management, on the Rainwater harvesting web page 'Urban water scenario', has estimated that 40 percent of the population of Bangalore is dependent on groundwater.

¹⁴¹ Ministry of Water Resources 2006.

¹⁴² Surendra, personal communication January 6, 2006, points to the nexus between water and electricity.

points out how factors like these, together with different hydrogeological features, are conditions which determine access to groundwater. Where all these factors are present, the result is inevitably rapid water drawdown.¹⁴³

Approximately 20 million private wells have been drilled across India.¹⁴⁴ Data is still scarce and varying, but the assumption for South Asia as a whole is that the groundwater development has not yet peaked.¹⁴⁵ Large aquifers on the Indian sub-continent are still considered untapped, normally expressed in terms of the stage of groundwater development¹⁴⁶ being below 70 percent.¹⁴⁷

Nevertheless, the intense drilling and deepening of the wells has not eliminated the competition between different sectors of water users. Rather, the ever-growing demand has driven the groundwater tables lower. Calculations show that withdrawals exceed the annual recharge to the aquifers in many areas of India. Lowered water tables have such consequences as sea-water intrusion, and the deepening of wells has resulted in exposure to the fluoride, arsenic, salinity, etc., that occur naturally in the bedrock. The declining yields further increase the electricity and/or diesel pumping costs.

Pockets in large parts of the country, including both the Bangalore Urban and Rural Districts, show groundwater levels falling more than 20 cm yearly. According to the long-term water-level trends during the pre-monsoon, estimated by the Ministry of Water Resources, this means over two m for the period 1995-2004.¹⁴⁸ Water tables in the cities were falling at a rate of 7-10 feet (2-3 m) per year already at the turn of the century.¹⁴⁹ In total for the country, just over 70 percent of the area assessed in 2004 was declared as 'safe' for further development, whereas 15 percent was categorised as 'over-exploited'. In Karnataka and Tamil Nadu, 37 percent falls within the latter category.¹⁵⁰

¹⁴³ Dubash, pp. 156f.

¹⁴⁴ It has been estimated that water for irrigation accounted for about 85 percent of the total groundwater withdrawals in 2000. The areas irrigated from wells have increased from 6 to 34 million ha. during the past 50 years. The Ministry of Water Resources holds that in general, minor irrigation projects have both surface- and groundwater as their sources of irrigation, whereas medium and large irrigation projects (with a Cultivable Command Area larger than 2,000 ha.) rely on surface water that is mainly distributed via canals. However, Shah and many other researchers hold that groundwater dominates the irrigation economy. Shah, Singh & Mukherji, p. 287 with references; Shah 2007, p. 32 note 1.

¹⁴⁵ Shah 2004a.

¹⁴⁶ Radakrishna, p. 8, defines 'development of groundwater' as "to arrest natural discharge and put it to purposeful use".

¹⁴⁷ For instance, the large alluvial tract in the Sindhu Ganga-Brahmaputra plains constitutes one of the largest and most potential groundwater reservoirs in the world.

¹⁴⁸ Ministry of Water Resources, web page 'Name Of The Districts...'.
¹⁴⁹ Shah *et al.*, p. 2. Ahmedabad, Jodhpur and Chennai were practically pointed out in 2000.

¹⁵⁰ In the States of Haryana, Rajasthan, Punjab and Delhi, 49-78 percent of the groundwater is over-exploited. Swaminathan *et al.*, p. 8; Central Ground Water Board web pages 'Knowledge base', 'State profile: Groundwater scenario: Karnataka'.

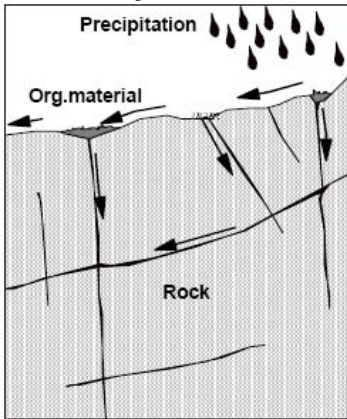
4.2 Geological conditions

The major part of the available freshwater resources on Earth is located underground, as an important part of the hydrological cycle. Of the total volumes of water found under the surface of the Earth, the major part can be referred to as *groundwater*. This is the water that is exploitable from aquifer formations, which take different shape and size and function as reservoirs. Strictly speaking, groundwater as such should not be spoken of as ‘subsurface’ or ‘subsoil’ water. The soil moisture (‘green water’) is situated close to the surface, between the zone of aeration that forms the top layer, and the actual groundwater level. It is of great importance for trees and plants, which extract soil water via their root systems. This layer is therefore fundamental for food production. Yet, an area’s topography, average rainfall conditions and hydrogeological features are the factors that decide whether it is feasible and economically reasonable to dig, drill or bore for groundwater. Knowledge of the distribution and movement of water in soil and rock depends on several interacting factors, including biological, physiological, chemical, meteorological and – increasingly – climatological such.

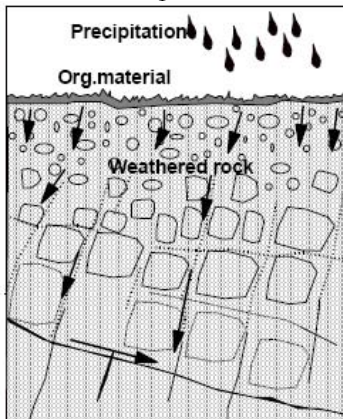
The natural and induced groundwater flow from soil to rock goes via a contact zone, which varies depending on climatic conditions and local formation processes. A very important factor to determine is how far water-saturated soil layers occur on top of the bedrock, or if this bedrock is bare.¹⁵¹ It has been shown that groundwater flow from soil to rock can only appear if permeable soil layers or permeable horizons in the soil are hydraulically connected to open or partly open structures in the rock (Figure 1).¹⁵²

Figure 1. Groundwater recharge in bedrock.

Without soil layers.



With residual deposits.



From Olofsson et al. 2001, p. 123.

¹⁵¹ Olofsson et al. 2001, pp. 123f.

¹⁵² Olofsson 1994; Olofsson et al. 2001, p. 124.

Fine-textured soils such as clay and loam, prevalent in the Bangalore area, can result in low infiltration capacities and hence low sub-surface recharge but high run-off. The infiltration capacity is generally increased with a vegetation cover, especially forests. Loamy and clayey soils retain water well, which can make them relatively impermeable. The conditions in Bangalore are, however, sandy, even gravelly loam (*Table 1*).

Table 1. Soils in the Bangalore area.

Soil unit	Description
<i>Red gravelly loam soils</i>	<i>Shallow, well-drained to excessively-drained, reddish-brown to yellowish brown, gravelly sandy loam to sandy clay loam.</i>
<i>Red loam soils</i>	<i>Shallow, excessively-drained to well-drained, reddish-brown to yellowish red, sandy clay loam to sandy loam soils, moderately to severely eroded.</i>
<i>Red gravelly clay soils</i>	<i>Deep to moderately deep and shallow, well- to excessively drained, yellowish brown dark red to reddish-brown, gravelly sandy loam to sandy clay loam and loamy sand surface soils and gravelly sandy clay to clay sub-surface soils, moderately to severely eroded.</i>
<i>Laterite gravelly soils</i>	<i>Deep, well-drained to excessively drained yellowish-red to dark reddish-brown, gravelly, sandy clay and clay surface soils, moderately- to severely eroded with surface crusting.</i>
<i>Lateritic soils</i>	<i>Deep, well-drained to excessively-drained, yellowish-red to dark reddish-brown, sandy loam to sandy clay and clay surface soils and clay subsoils, moderately to severely eroded with surface crusting. Exist in patches.</i>

Adapted from Ramachandra & Kamakshi, pp. 35f.

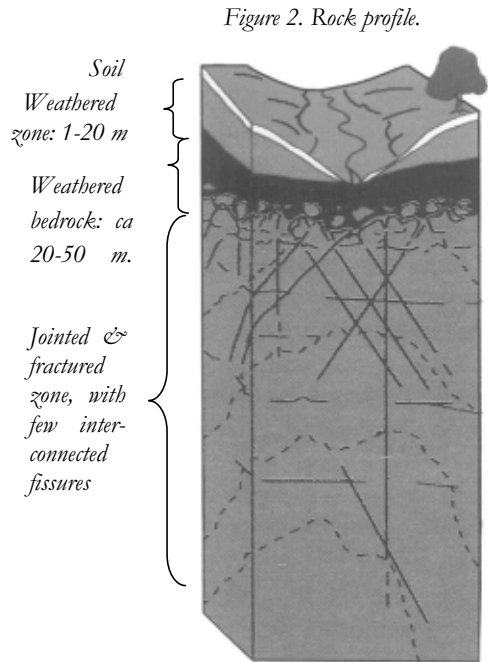
From these data we can conclude that intrinsic permeability in the area should be moderate-to-slow, where the fact that the soils are well-drained improves the recharge possibilities. The slow infiltration rate can result in a rather high run-off during intensive monsoon periods, when the soil is thoroughly wet and saturated. As Bangalore's green belt (*Map 2*) is rapidly decreasing with the demand for land to convert into residential areas, and the surface is instead hardened, rainwater harvesting is all the more important.

The rock formations in the Bangalore area originate mainly from the Archaean age, the oldest rocks of the Earth's crust (>2,500 million years). Gneiss and granitic gneisses dominate, being thoroughly crystalline, extremely contorted, unfossiliferous, contrasted and faulted. Granites occur as plutonic intrusions, with coarse grained and porphyritic texture, and pegmatite veins. The gneisses are also often traversed by east-west and north-south trending dikes of dolerite. The extreme characteristics have given rise to the names Peninsular Gneissic Complex (PGC), or sometimes Archaean complex.¹⁵³ In addition, laterite – a Pleistocene formation – exists in the high-altitude, north-eastern part of Bangalore.

¹⁵³ Wadia, pp. 74f.; Radakrishna, p. 15.

Being of Archaean age, the Indian peninsula has long been exposed to winds, humidity, dry conditions, etc. Though the crystalline rocks in the area lack primary porosity, the gneisses and granites have undergone different degrees of secondary decomposition that has resulted in layers of weathered, semi-weathered and kaolinised zones, as well as massive rocks with fissures, fractures and joints.¹⁵⁴

The highly weathered and porous rock formations extend to about 12 m, and at most 20 m in valleys, and this zone is generally clayey in the case of gneisses. The bedrock's fractured zone contains joints and cracks, some of which are well connected to each other and can function as conduits. At deeper levels there may be master joints that have been enlarged by dissolution and can extend to considerable depths.¹⁵⁵ The fracture systems are generally hydraulically connected with the overlying weathered and saturated residuum.¹⁵⁶



Adapted from Radakrishna.

4.3 Estimating groundwater resources

The Karnataka State Department of Mines and Geology and Central Groundwater Board have estimated the groundwater resources in the State, using guidelines and recommendations of the Groundwater Estimation Methodology as adjusted in 1997 (GEM'97) and modified for hard-rock terrain. The groundwater drafts were computed by comparing data from the crop water requirement method and the unit draft method, the latter based on observation wells and assuming an annual

¹⁵⁴ Department of Mines and Geology & CGWB, p. 12.

¹⁵⁵ Department of Mines and Geology & CGWB, p. 12, 16; Radakrishna, pp. 15, 20f.

¹⁵⁶ Central Ground Water Board 2002, p. 4.

growth rate of five percent in the total number of bore wells.¹⁵⁷ The estimations were further divided into monsoon and non-monsoon season, command- and non-command area.

Two methods were used for calculating natural recharge: the water table fluctuation method, and the rainfall infiltration factor method. In addition to precipitation, the former takes into account return seepage from irrigation, and seepage from surface water bodies (tanks and ponds) and other sources (water conservation structures).¹⁵⁸ For rainfall infiltration, return flow from irrigation (both by groundwater and surface water) and seepage from canals, tanks/ponds/other water bodies and other water conservation structures (the latter held to be negligible due to their low number) were also added to the precipitation.

Based on these estimations, the last five-year report from the authorities (published in 2004) states that in the Bangalore region, the total annual groundwater recharge was 13,486 ha/m/year and the overdraft was 24,989 ha/m/year.¹⁵⁹ In other words, the stage of groundwater development was much over 100 percent, and the area was therefore categorised as over-exploited – as an area without scope for future development.¹⁶⁰

The severe situation has also been expressed as follows. In 64 percent of the bore wells tested by the Department of Mines and Geology, the water level had declined considerably: whereas water could be extracted from a depth of 24–30 m (80–100 feet) earlier, it was now difficult to find it even at 75 m (250 feet). A senior Department official informed the media that “people have drilled bore wells but these are not going to be sustainable sources. In some areas bore wells have been drilled up to 365 m (1,200 feet)”.¹⁶¹ At least 10 percent of the bore wells have reportedly dried up completely. Bangalore’s public Water Board, which has somewhere between 3,000 and 6,246 bore wells throughout the city centre, has noted 457 of these wells as defunct or dried up.¹⁶²

The Geological Society of India, which is located in Bangalore, holds that in joints and fissures of granitic rock, water can be found at depths of approximately 90 m. It seldom recommends that a bore well be drilled deeper than 60 m – over 96 percent of the yield is found within this span, as the joints, fissures and other water-filled openings occur here.¹⁶³ At larger depths, the groundwater flow is more often

¹⁵⁷ Department of Mines and Geology & CGWB, pp. 26ff, 16; Central Ground Water Board Western Region, web page ‘About us’. CGWB has so far explored potential aquifers to a depth of 200 m in hard-rock, but holds that exploration also of deeper aquifers would need to be carried out in order for potential aquifers to be exploited in the future, CGWB web page (a).

¹⁵⁸ Cf. how Nataraju *et al.* apply the method.

¹⁵⁹ Figures for Bangalore North and South *Taluk*s.

¹⁶⁰ Radakrishna, p. 8, defines ‘development of groundwater’ as “to arrest [the] natural discharge and put it to purposeful use”. The ‘over-exploited’ areas were previously categorised as ‘black’.

¹⁶¹ Chauhan.

¹⁶² BWSSB, p. 12, according to which the higher number. In Anonymous 2008d, the lower number is mentioned.

¹⁶³ Radakrishna, p. 24.

reduced, but in the case of master joints, the yields may be significant from a bore well intersecting such a joint. No data seem to exist on the occurrence of master joints in the Bangalore region, however.

In some parts of the State, people call the *adda* man to drill horizontal bore wells when further deepening of a dug-well (from a current depth of up to 75 feet, 23 m) appears fruitless. Drilling is then done from inside the well. The *adda* bore can stretch up to 24 m (80 feet) and parallel ones can be made because, as the borer Mohammad explains, “though these water veins are located so close to each other, they aren’t usually inter-connected”.¹⁶⁴ Instead, the horizontal bore wells usually draw water from the top layer of the soil, and will attract water from the neighbouring one acre (0.4 ha) area. With groundwater recharge measures adopted in the catchment area, *adda* bores are held to be sustainable.¹⁶⁵

One may wonder how serious matters are at this point. Beyond doubt, most *open* (dug) wells are dry or about to become so, and bore wells are being drilled much deeper than previously. However, as millions of Bangaloreans (not to mention hospitals, large restaurants, and hotels) in fact depend on groundwater, it can be assumed that certain areas, or pockets, give substantial yields. When the Water Board announced its inability to supply the city’s inhabitants with enough drinking water from the Kaveri in the summer of 2007, the Corporation assured everyone that it would drill 100 new bore wells.¹⁶⁶ This indicates that some authorities either perceive the over-exploitation situation as less grave than others do, or choose not to listen to the experts. It is not known whether an application to drill these wells was eventually handed in (only to be rejected).

However, *if* there is more available groundwater than has been calculated, because recharge to the aquifers is larger than calculated, the GEM’97 methods now used for estimating the groundwater resources may need to be supplemented with others. We will therefore take a closer look at other potential methods.

4.4 Alternative means of estimating recharge

Groundwater is characterised by its slow movement and the fact that it has been accumulated in its aquifers over long periods. Recharge, or replenishment, of an aquifer takes place as a result of precipitation and seepage from surface water in rivers, lakes, oceans and other reservoirs. Rice fields that stand under water for long periods at a time also contribute to groundwater recharge, as do other traditional irrigation practices. On the contrary, the water that floods over bare land areas during, e.g. the monsoon season is generally lost as run-off to various water bodies or used by plants, or is subject to evaporation before it could seep down to reach aquifers in the bedrock. The infiltration capacity of the soil, permeability and presence of residual deposits and vegetation cover on the bedrock are decisive factors, as we have seen.

¹⁶⁴ Padre.

¹⁶⁵ *Ibid.*

¹⁶⁶ Anonymous 2007f.

Recharge further depends on the water movement from the recharge zone, which can take several centuries. When water is being pumped from the depths where it is referred to as ‘fossil’ due to its geological age, it should hence not be conceived of as a renewable source in the ordinary sense of the word.

In the literature, it is stressed that studies of the water balance are important for the establishment of local and regional water budgets in semi-arid areas. Similarly, the issue of estimating recharge is seen as a key component in any model of groundwater flow, and to establish the potential of extraction. However, there is a great deal of uncertainty in the estimations and models of recharge, not the least in crystalline bedrock.¹⁶⁷ The patterns of recharge are always complex, due to geology, topography, weather, and other conditions. In a semi-arid area such as the Bangalore region, natural recharge comes from infiltrating precipitation, and *indirect recharge* via seepage from lakes, tanks, water-holding constructions and the like adds to this. In addition, gravitation directs the flow of water from higher areas to lower ones, especially in undulating terrain – such as Bangalore has. Recharge is also subject to disturbance, for instance by pumping from wells.¹⁶⁸

All in all, estimating recharge conditions in hard-rock terrain is very challenging. *Ramesh Chand et al.* write that “[a] reliable estimation of recharge in hard-rock aquifers is a difficult task in view of wide spatial–temporal variations in the hydrological and hydrometrological conditions... [The] methods require analysis of *large volumes of hydrological data* (precipitation, surface run-off, evapotranspiration, change in groundwater storage, etc.) accumulated over a considerable time span, which is *generally inadequate, lacking or unreliable in many areas*” (emphasis added).¹⁶⁹ – In India, systematic planning and budgeting measures began only in the late sixties,¹⁷⁰ a fact which partially explains the relatively small amount of data available.

Richard Healy & Peter Cook hold that “it is highly beneficial to apply multiple methods of estimation and hope for some consistency in results – even though consistency, by itself, should not be taken as an indication of accuracy”.¹⁷¹ – Although the responsible authorities in Karnataka have explained that GEM’97 is an upgraded version of the methods previously employed,¹⁷² there might still be room for improvement in terms of methods and approaches. For instance, it seems as if evapotranspiration is not taken into account when calculating water table fluctuation.

Another important example is that the Department of Mines and Geology and the CGWB do not appear to have estimated or discussed the recharge potential in Bangalore’s urban environment. *David Lerner* points out that “[h]ydrologists once

¹⁶⁷ Cf. Bockgård, who notes that recharge as such can, in a wider sense, mean all water that enters the bedrock groundwater system, including saturated flow from adjacent aquifers, pp. 9f.

¹⁶⁸ Olofsson *et al.* 2001, p. 120.

¹⁶⁹ Chand *et al.*, p. 821.

¹⁷⁰ Chandra, p. 337.

¹⁷¹ Healy & Cook, pp. 91f.

¹⁷² Department of Mines and Geology & CGWB, pp. 20ff.

believed that cities reduced the amount of recharge to the underlying groundwater because of impermeabilisation of surfaces. This myth has been widely discredited... Now most hydrogeologists accept that the infrastructure for water supply and storm drainage generates large amounts of recharge through leaks”.¹⁷³

Lerner suggests that numerous sources contribute to recharge – including leaking mains and pipes through which water is imported, storm-water and waste-water drains, sewers, over-irrigated lawns and golf courses, fountains, and deliberate artificial recharge. Several methods are possible when estimating the recharge and modelling the water balance, and a holistic approach should be kept in mind.¹⁷⁴ The Ministry of Water Resources’ approach is, however, that the precise assessment of recharge and discharge is rather difficult, as no techniques are currently available for their direct measurement.¹⁷⁵

In the case of Bangalore, the question of a possibly re-defined way of estimating recharge is highly relevant. The city is very spread out, with many tanks and lakes (and an even larger number of former tank-beds). After the decision to incorporate surrounding municipalities and villages, the city borders now embrace a peri-urban and semi-rural area including some farmland and a reserved, albeit shrinking, green belt. More and more buildings practice roof-top rainwater harvesting, thereby contributing to the recharge. Most buildings are equipped with underground sumps in which water is stored, and which may leak considerable amounts. All thus add water more or less directly to the aquifers and this contribution needs to be included for the sake of more reliable estimations.

Another substantial source of recharge to the aquifers is the losses in the distribution system – the pipes through which water from the Kaveri is transferred by the public utility. The system within the former core city is up to 60 years old and the pipes are affected by corrosion. This has resulted in leakages amounting to approximately 30-40 percent, but possibly up to 50 percent, of the water drawn from the Kaveri.¹⁷⁶ This figure is relatively high and unviable both economically and in terms of water management. It is also beyond excuse when considering the technological advances made in the field, as well as the costs involved in not attending to such water losses on the way from source to end-consumer.

In a densely-populated city, there are also factors affecting recharge negatively. Many surfaces such as parks, paths, roads and parking lots are rendered less permeable due to heavy usage. The layer of soil easily becomes over-compact. In Bangalore, much of the natural drainage system in valleys and interconnected lakes has

¹⁷³ Lerner, p. 144.

¹⁷⁴ In terms of evaluated methods, cf. Bockgård; Olofsson.

¹⁷⁵ Ministry of Water Resources web page ‘Ground water – how it is assessed’. It was previously held that the techniques for direct measurements are expensive (<http://www.wrmin.nic.in/resource/default3.htm>, retrieved December 15, 2006, now taken away).

¹⁷⁶ Tsuchiya. The Water Board in its Performance Report 2005-06 notes that “the initial overall leakage was 64.25 % and current level is 48.67%”, p. 23. Some of the ‘unaccounted-for water’ – alternately termed ‘non-revenue water’ – disappears because of illegal connections being made to the network, and some is distributed but never paid for.

also disappeared, due to various types of encroachment for residential areas, infrastructure, shopping malls, etc.¹⁷⁷

Much of the urban groundwater recharge is due to leakage and overflow from drains and the sewerage network, and might contain water contaminated to various degrees. Supplies drawn from wells recharged with such water will be sub-standard. This is the scenario in most of Bangalore.

4.5 Quality issues related to the groundwater resources

Groundwater is generally superior to surface water in several respects, such as the content of bacteria and organic matter and compounds. However, samples taken and analysed by the Chemical Laboratory of the Department of Mines and Geology during 2003 and 2006 show that the quality of Bangalore's groundwater is poor. The 2003 study collected 918 samples from 735 locations across an area of 400 km² of the city and its (then) environs, for 15 parameters. Both this and the study of the whole of Karnataka in 2006 show widespread and rising contamination, with traces of nitrate, iron, fluoride, bacteria, total dissolved solids, etc. over desirable limits and sometimes also over the permissible limits laid down by the Bureau of Indian Standard specification (IS 10500:1991) for drinking water.

In 2003, levels of nitrate ranging up to 666 mg /l were found. In 35 percent of the samples the level exceeded the permissible limit of 50 mg/l.¹⁷⁸ In 2006, when only 34 samples were collected from the whole Bangalore Urban District, the highest level found was 194 mg/l.¹⁷⁹ Levels above the permissible may result in methaemoglobinaemia (the Blue Baby syndrome) and cancer.

For unknown reasons, only 100 samples were collected to trace bacteria.¹⁸⁰ Coli-form bacteria were found at levels up to 23 MPN (Most Probable Number) per 100 ml, though the permissible limit is 0 MPN. Some 74 percent of the groundwater in Bangalore city had bacteriological contamination.

Reportedly, over 15 percent of the groundwater had a high iron content. The recommended desirable limit for potable water is 0.3 mg/l, but in the absence of other sources of potable water, the permissible limit is 1.0 mg/l. In many areas, a level of 16.0 mg/l has been detected. The total hardness of water in many areas has touched over 1,000 ppm (parts per million) The permissible limit is 600 ppm. Fluoride at levels of 2.5 mg/l (permissible limit 1.5 mg/l) has been detected in Yelahanka, the northernmost part of Bangalore.

¹⁷⁷ Especially in times of heavy rain, the low-lying areas of Bangalore are subjected repeatedly to severe flooding. This causes much damage to infrastructure and civic amenities – and has health impacts due to overflow and/or back-ups from sewers.

¹⁷⁸ Department of Mines and Geology 2003, p. 16. Some sources give a 'desirable limit' for nitrate as 45 mg/l and 'permissible' as 100 mg/l. The WHO guideline is 50 mg/l.

¹⁷⁹ Department of Mines and Geology 2006.

¹⁸⁰ At the beginning of 2008, the Water Board was, for the first time, to test groundwater from all the 3,000 borewells across the city for contamination, due to outbreaks of cholera and gastroenteritis, Anonymous 2008a.

Altogether, the Department concluded in 2003 that 50 percent of the groundwater was not potable, and that “if the present trend continues, soon all the groundwater will be contaminated from one pollutant or the other rendering precious groundwater useless”.¹⁸¹ The recommended action, apart from ‘checking pollution’ was to recharge the groundwater aquifer through rainwater harvesting.

The health problems that physicians and paediatricians in Bangalore have related to high concentration of bacteria in groundwater are gastroenteritis, typhoid, hepatitis and cholera. Equally, anaemia, methaemoglobinaemia and respiratory diseases have been documented as potential outcomes of nitrate contamination. Dermatitis is also prevalent.¹⁸²

In the villages on the outskirts of Bangalore, ammonia and nitrate-based fertilisers used in farms may be polluting the water. The predominant reason for the inferior quality throughout the city is, nevertheless, that most wastewater is left untreated. Only some 40 percent of Bangalore is covered by sewerage networks. The capacity for secondary treatment of sewage is limited to 721 MLD, and for tertiary treatment the limit is 70 MLD.¹⁸³ In addition, the sewage pipes are old, and leak.

In many areas, the groundwater tastes so salty that it is non-potable. Inland salinity in groundwater in a semi-arid region such as Bangalore can be due to aridity and high evaporation. It can also be related to hydrogeological reasons, i.e. geogenic sources – or to accumulation of table salt (NaCl) from human consumption, again because of sewage leaking into the aquifers. The salty taste can also indicate high concentrations of potassium. The Karnataka State Pollution Control Board has found levels of potassium as high as 36-38 mg/l in the Bangalore area.¹⁸⁴

No persistent pharmaceuticals in groundwater seem to have been reported, but such are nonetheless likely to occur as residues from sewage.

4.6 Summing up

The importance of groundwater has steadily increased in India, boosted by improved technical means to pump water from greater depths, but also because of subsidised electricity, lax regulations – and a growing demand for freshwater. The groundwater tables are declining, more rapidly in cities. Although it cannot be said exactly how large a part of Bangalore’s population or businesses depends primarily or to some extent on groundwater, we can assume that a clear majority is affected. In the rural or rural-like peri-urban areas around the city of Bangalore the dependence on groundwater has been close to total, making the inhabitants very vulnerable to prevailing natural conditions. People living in the typically urban environment are more likely to be connected to the public network and therefore able to rely on surface water, at least partly.

¹⁸¹ Department of Mines and Geology 2003, p. 20.

¹⁸² Anonymous 2006a; Gandhi 2007a; Gupta *et al.*; Anonymous 2008a, b, d.

¹⁸³ JNNURM, pp. 66f.; Water Board p. 18.

¹⁸⁴ Karnataka State Pollution Control Board.

Due to the size of overdrafts in relation to the calculated recharge, the authorities have stated that the stage of groundwater development is over 100 percent in the Bangalore region. The soils of the region are well-drained and generally semi-permeable but with a moderate-to-relatively-low infiltration capacity – at the lowest in the urbanised areas with hardened surfaces. The peninsular gneissic complex has undergone different degrees of secondary decomposition and thus contains layers of highly- or semi-weathered zones; but at greater depths the hard-rock lacks much primary porosity and hence there are few aquifers. Overall, most of the groundwater in joints and fissures should be found at depths down to about 60 m, and the natural recharge potential should not be very high, given the conditions mentioned.

The authorities' methods for estimating the figures for the Bangalore area have been modified to take account of hard-rock terrain, but give data for natural recharge only. Recent research on urban environments suggests that the infrastructure for water supply, storm water, and wastewater drainage, suffers greatly from leakage. This increases the total recharge potential. Urban recharge is widely recognised as being equivalent to or higher than that in corresponding rural areas. Estimating groundwater recharge for the urban environment is complicated, though, even given an integrated analysis of each recharge component.¹⁸⁵ This will indeed be a difficulty in the case of Greater Bangalore, where the diverse 'urban' and 'rural' characteristics of the city must be taken into account. The high amount of corroded piping and mains plays a major role, as does the growing number of structures for artificial recharge (RWH). Reaching more accurate data on the groundwater situation will remain difficult, but is necessary.

Deeper discussion of groundwater in relation to the (missing) regulatory structures will be delayed until after the exploration of the relevant legal matters in Chapter IX.

5 Sharing Kaveri's water

5.1 Background: a river and its Tribunal

The Kaveri is one of the longest inter-State rivers in India. Its 765-802 km stretch, flowing in a south-easterly direction, originates in the Western Ghats in Karnataka (by Coorg) and reaches the Bay of Bengal in the State of Tamil Nadu.¹⁸⁶ Apart from Karnataka and Tamil Nadu, the river basin includes parts of the State of Kerala in the west and a part of the Union Territory of Pondicherry which occupies a coastal area in Tamil Nadu. As well as Bangalore, several towns and villages depend almost entirely on the Kaveri for their water supply. Moreover, the river has for centuries been of chief importance for agriculture. India's first and still functioning hydroe-

¹⁸⁵ Lerner, pp. 148, 151.

¹⁸⁶ It has proved virtually impossible to find reliable, 'neutral' or otherwise authoritative sources on any aspect or figure in the case of the Kaveri. Most 'facts' that are available can be disputed by reference to other sources which give a quite different picture. One example is the manifold statements on the length of the river, or which tributaries are the ones of major importance.

lectric power plant is on the Kaveri, and powers the gold mining in Karnataka. Both States grow water-intensive crops – paddy in Tamil Nadu and sugarcane in Karnataka – but the semi-dry and horticultural crops dominate.

The Kaveri has been the object of sharing agreements, negotiations and conflicts for more than a century. Each time a poor monsoon leads to shortage of water, the dispute between farmers especially in Karnataka and Tamil Nadu intensifies. *Ramaswamy R. Iyer* has written that the Kaveri “is a fabled river with strong historical, religious, and cultural associations in both Karnataka and Tamil Nadu. In both States, mention of Cauvery waters evokes a strong emotional response”.¹⁸⁷ The dispute is also regularly a major issue in electoral politics.

The use and development of the river were first regulated in 1892, during British rule. A revised agreement of 1924 was to be given an overhaul after 50 years. At the end of this period, the main parties – Karnataka and Tamil Nadu – sat down for several fruitless rounds of discussions and negotiations. Tamil Nadu contended that the agreement provided for an extension in 1974 and was still valid as such, while Karnataka wanted a renewed approach on the ground that the agreement had been entered upon by two unequal partners – the then princely State of Mysore, and the Madras Presidency which was under (stronger) colonial rule.

India has seventeen major rivers that flow through two or more States. A dispute-settling system has existed for over 50 years, under which tribunals have been set up for five rivers. The Kaveri dispute is special among these as it relates to water that has long been over-allocated.

5.2 Legal basis of the Tribunal

Since the Kaveri is an inter-State river, its regulation and development are a matter for the Union Parliament. The Republic of India applies a division of power between the federal Union and State governments (and Union Territories), regulated in the Constitution (Art 246). Areas of legislation are enumerated in three lists in the Seventh Schedule under the Constitution. Local government, public health and sanitation, land and water are on the *State List*; inter-State rivers on the *Union List*.

According to Entry 56 of the Seventh Schedule the power of the Union Parliament in the case of inter-State rivers applies “to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest”. The River Boards Act, 1956, was enacted under this provision and covers issues relating to use, distribution and allocation of the waters of inter-State rivers and their valleys. It has remained a paper law.

Further, the Constitution contains a special provision on Disputes relating to Waters. The first clause of this reads

“Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State river or river valley” (Art 262(1)).

¹⁸⁷ Iyer 2002a.

Pursuant to this, the Inter-State Water Disputes Act, 1956, was passed. The Act has been heavily criticised over the years, partly because of the long time-frames and slow process that the Act allows.¹⁸⁸ Some amendments came into force in 1968, followed by a major overhaul in 2002. However, the Act still only contains procedural provisions, with no guidance on how substantive matters are to be regulated. The Act provides for an *adjudication* procedure; it is hence obligatory for all parties to a dispute to appear before the Tribunal and effectuate its decision.¹⁸⁹ The Tribunal has the same powers as those vested in a civil court, including the power to require any documents and materials to be produced before it. As part of the process, it may require the parties to carry out or permit the carrying out of any surveys and investigations it may deem necessary for the adjudication.

In 1970 and again in 1986, the Government of Tamil Nadu made formal requests to the Central Government under the Disputes Act, asking it to constitute a special Tribunal that could adjudicate the Kaveri conflict. Sec 4 of the Act requires the Centre first to try to resolve the dispute through negotiation. However, talks continued to be unsatisfactory to the parties and when the Central Government took no further action, a farmers' society in Tamil Nadu felt compelled to approach the Supreme Court. In 1990, the Court as a result directed the Centre to set up the Kaveri Water Disputes Tribunal.¹⁹⁰ Within a year, the Tribunal presented an Interim Order, following a number of miscellaneous civil petitions from both Karnataka and Tamil Nadu.¹⁹¹ The Tribunal directed Karnataka to release a certain amount of water yearly, a decision which immediately caused outbreaks of violence with fatal outcome, including suicide and suicide threats among farmers.

The Disputes Act stipulates that a decision of the Tribunal “shall be final and binding on the parties to the dispute and shall be given effect to by them”, and “after its publication in the Official Gazette [the decision...] shall have the same force as an order or decree of the Supreme Court” (Sec 6(1), (2)).¹⁹² By referring to the Tribunal as having a judicial function and weight equivalent to that of the Supreme Court, the legislator has expressed that an aggrieved party also has no option of appealing to the Supreme Court itself. On the contrary, the Constitution and the Inter-State Water Disputes Act contain provisions with the effect of excluding other courts from the dispute:

¹⁸⁸ Cf. Anand; Iyer 2003, 2007; Richards & Singh; Salman 2002.

¹⁸⁹ As distinct from the *arbitration* settlement technique, where parties refer their dispute to an impartial body and agree to be bound by its resolution.

¹⁹⁰ *Tamil Nadu Cauvery Neerppasanavilaiporulgal Vinasayigal Nal v. Union of India & Others* (1990) 2 SCJ 547. The Tribunal consists of three members, judges, assisted by two assessors.

¹⁹¹ Ministry of Water Resources, Notification S.O. 840(E) (December 10, 1991).

¹⁹² Though the formulation might seem to indicate otherwise, the decision is binding only after it has been published in the Gazette. This is because any of the parties can make a further reference to the Tribunal within three months of final decision, to seek clarifications or a supplementary report (Sec 5(3)).

“Notwithstanding anything contained in any other law, neither the Supreme Court nor any other court shall have or exercise jurisdiction in respect of any water dispute which may be referred to a Tribunal under this Act” (Sec 11).¹⁹³

Several scholars have commented on this provision, writing that though it is intended to bar courts from reviewing the awards of the tribunal in question, such interventions have only increased in number.¹⁹⁴ However, as long as the Supreme Court does not treat the water disputes as such, it has the necessary jurisdiction. One illustration is the award of the Narmada Water Dispute Tribunal, which was challenged on the aspects of rehabilitation and resettlement, human rights and ecology. The Supreme Court dealt with the question of whether the project was open to question from the environmental and rehabilitation aspects.¹⁹⁵ The Court also upheld its jurisdiction in the matters raised before it in the case of *Narmada Bachao Andolan v. Union of India & ors*:

“This Court, as a Federal Court of the country specially in a case of inter-State river dispute where an Award had been made, *has to ensure* that the binding Award is implemented. In this regard, the Court would have the jurisdiction to issue necessary directions to the State which, though bound, chooses not to carry out its obligations under the Award... Just as the execution of a decree can be ordered, similarly, the implementation of the Award can be directed” (emphasis added).¹⁹⁶

As the quotation shows, the Supreme Court takes upon itself the role of implementing agent, or of an agent that is to ensure implementation through the State(s) in question.

In the Kaveri dispute, the Supreme Court has issued a number of directions over the years. This has been done primarily on the grounds of non-implementation of Tribunal decisions and those of the Supreme Court itself, as well as issues of compliance with the decisions of the especially established Cauvery River Authority. Karnataka, for instance, questioned whether the Tribunal could issue an Interim Order and whether it had the authority to grant interim relief.¹⁹⁷

The State of Karnataka has several times shown contempt for the Tribunal’s decision-making authority. It has, for instance, claimed that the Tribunal has “no inherent power like an ordinary civil court [but...] only those powers which have been conferred to it under the Act”, and that the Supreme Court “had no jurisdiction”.¹⁹⁸ However, the Supreme Court expressed in the *Narmada Bachao* verdict that

¹⁹³ Cf. the Constitution, Art 262(2); “Notwithstanding anything in this Constitution, Parliament may by law provide that neither the Supreme Court nor any other court shall exercise jurisdiction in respect of any such dispute or complaint...”.

¹⁹⁴ Upadhyay & Upadhyay, p. 44; Iyer 2002b.

¹⁹⁵ Upadhyay & Upadhyay, p. 44; Iyer, in Venkatesan 2007.

¹⁹⁶ (2000) 10 SCC 664 = AIR 1999 SC 3345. Cf. (1990) 3 SCC 440.

¹⁹⁷ *Tamil Nadu Cauvery NPV Sangam v. Union of India and Others* (1990) 3 SCC 440. Cf. Iyer in Venkatesan 2007; Upadhyay & Upadhyay, p. 44.

¹⁹⁸ *Tamil Nadu Cauvery NPV Sangam v. Union of India and Others* (1990) 3 SCC 440, para 8-9.

“[j]ust as an ordinary litigant is bound by the decree, similarly a State is bound by the Award”.¹⁹⁹

The most striking example of disrespect for the Tribunal is that, shortly after the Interim Order in 1991, the Karnataka Cauvery Basin Irrigation Protection Ordinance was promulgated, in an express effort to nullify the effect of the Order. It was to have effect “notwithstanding anything contained in *any* order, report or decision of *any* Court or Tribunal (whether made *before or after* the commencement of this Ordinance), save and except a *final* decision under the... Inter-State Water Disputes Act” (emphasis added).²⁰⁰ However, the President of India made use of his authority to question the Ordinance, which the Supreme Court thereupon pronounced had no constitutional validity. The flowing waters of Kaveri were not for a riparian party to appropriate:

“The waters of an inter-state river pass through the territories of more than one state. Therefore, it cannot be said that such waters *belong* to any particular state. Neither the state from which the river originates, nor the state where the river joins the sea can claim complete *ownership* of waters in an inter-state river” (emphasis added).²⁰¹

An individual State of the Federal Republic of India lacks such sovereign powers over its territory as to give it independent decision-making power and political freedom over that part of a river which flows through it. The States are bound by the Constitution as well as Parliamentary laws made there under with regard to matters not delegated to them. The Constitution provides for a clear division of power, meaning that even if the Disputes Act had not been in force, it was beyond Karnataka’s legislative competence to take action in the way it did.²⁰² – As we will see in Chapter VI, the law conventionally does not allow for ‘ownership’ of water.

5.3 Final order

5.3.1 Some relevant details

After the Interim Order, several rounds of talks took place between the Chief Ministers of Tamil Nadu and Karnataka, but the parties failed to find any common ground for a settlement. In August 1998, the Centre constituted a ‘Cauvery River

¹⁹⁹ (2000) 10 SCC 664 = AIR 1999 SC 3345.

²⁰⁰ The Karnataka Cauvery Basin Irrigation Protection Act, (Act 27 of 1991), para 4.

²⁰¹ *In Re Cauvery Water Disputes Tribunal* AIR 1992 SC 522 (22 November 1991). Little information is available on the Karnataka Cauvery Basin Irrigation Protection Ordinance or, later, the Act on the issue. The name suggests that irrigation was in need of ‘protection’, whereas the water supply was not perceived as at risk. For a comment on the Constitutional questions raised in the case, cf. Salman 2002, p. 233.

²⁰² The Harmon ‘doctrine’ – which was suggested by General Harmon in relation to the case *United States v. Texas*, 162 U.S. 1, 16 S. Ct. 725, 40 L. Ed. 867 (1896) as a *theory* of territorial sovereignty between riparian states but never adopted by the U.S. – is of no interest in the Kaveri dispute and will therefore not be dealt with here. It was mentioned shortly in the Report, Vol. III, p. 2f., as Karnataka made reference to it.

Authority’ to ensure implementation of the Interim Order. A ‘Monitoring Committee’ was set up to assist the Authority by collecting information and data.²⁰³

The final arguments were delivered before the Tribunal from January 2002 onwards. Five years later, in February 2007, the Final Order and Decision was announced, together with a Report of some thousand pages and five volumes, and a number of maps of the basin.²⁰⁴

The utilisable quantum of waters of the Cauvery had been determined to be 740 TMC in a normal year, on the basis of 50 percent dependability (meaning that the flow is expected to be equal to or higher than 740 TMC per year in 50 years out of 100). The Tribunal decided on allocation of the available water, with 270 MLD to Karnataka and 419 MLD to Tamil Nadu, as well as portions to Kerala and Pondicherry.²⁰⁵ Karnataka was thus ordered to release a total of 192 TMC yearly, of which 10 for environmental purposes; the Tribunal reserved a quantity of water for environmental protection and ‘inevitable escapages into the sea’. It was further ordered that tentative monthly deliveries – divided into ten daily intervals – during a ‘normal’ year were to be made available by Karnataka at a certain inter-State contact point.²⁰⁶ Should the yield of the river be less in a distress year, the allocated shares are to be proportionately reduced among the four parties.²⁰⁷

As the Tribunal’s decision is of optional character, it is also spelled out that alterations, amendments or modifications of all or any of the clauses are possible, by agreement between the parties. However, the States concerned can by mutual agreement, and in consultation with the Regulatory Authority, make any amendment in the pattern of water allocations.²⁰⁸

5.3.2 Groundwater not to be included

Although the groundwater resources admittedly constitute a relevant factor for ‘equitable apportionment’ of the Kaveri waters, they are omitted from the considerations. The Final Order rules that “the use of underground waters... shall not be reckoned as use of the water of the river”.²⁰⁹ The Tribunal seems to have assumed that there are too large uncertainties in relating groundwater to other phases of the hydrological cycle. For instance, reference is repeatedly made in the Report to how “the important role of underground water flow, though known to the hydrologist, is *not fully calculable* from the technical point of view and, therefore, *not fully cognizable*

²⁰³ Ministry of Water Resources, Notification S.O. 675(E), August 11, 1998; and S.O. 1022 (E), November 15, 2000, as mentioned in the Tribunal Report, Vol. I. The Authority and Committee are seemingly impotent and superfluous.

²⁰⁴ The Order can be found in full text on a web page of the Ministry of Water Resources, ‘Cauvery Water Disputes’.

²⁰⁵ Final Order, Clauses IV-V.

²⁰⁶ Clauses V, IX.

²⁰⁷ Clause VII.

²⁰⁸ Claus XI.

²⁰⁹ Clause XII.

as yet from the legal point of view” (emphasis added).²¹⁰ The perceived difficulties associated with attaining accurate estimations seem more as an excuse not to take the groundwater into account. The fact that the seventy pages on groundwater in the Report are rather inconsistent indicates that the three Judges had different levels of understanding of the hydrological cycle, and/or the importance of an integrated approach on water.

5.3.3 Water supply to Bangalore

In the part of the Tribunal’s Report that deals with domestic water requirements, the principle of priority of drinking water over other beneficial uses of the Kaveri water was upheld. The Tribunal’s decisions on allocation nonetheless leave many questions unanswered, and several of the calculations lack thorough scientific grounds. For instance, it is assumed that 50 percent of the drinking water requirement is met from the groundwater sources, based on the assertion that “it is *generally seen* that wells and tube wells in urban and rural areas cater to *substantial* requirements of drinking water” (emphasis added).²¹¹ In comparison with statistics from the Ministry of Water Resources, this figure mirrors what may be normal in urban environments, but is nowhere close to the situation in rural areas. The Tribunal’s point of departure appears to lack good backing in this regard, as becomes clear from comparisons with data readily available from official Indian authorities.

The Tribunal might also have reached certain conclusions due to the Counsel of the parties – neither a Tribunal nor a Court is under any general obligation to take an active role, e.g. by filling in gaps in material provided to it.²¹² The Tribunal decided that in *projecting future demand* coupled with population growth, the year 2011 should suffice rather than 2025 or 2051 as was suggested. The population growth was calculated from the 1981-91 census. However, for Bangalore (by the then boundaries of the city), the population projection was based on the census of 2001 – which was furnished to the Tribunal by Tamil Nadu. (Apparently, the State of Tamil Nadu provided the Tribunal not only with more recent data, but also more detailed such.) The Tribunal’s assumptions for Tamil Nadu’s drinking water requirements therefore seem to have a different, and more up-to-date, basis than those for Karnataka save for Bangalore.²¹³

After referring to various national standards, the Tribunal arbitrarily put the drinking water requirements at 135 lpcd for 25 percent of the urban dwellers, and at 100 lpcd for the remainder, “[s]ince we do not have the detailed information re-

²¹⁰ Tribunal Report, Vol. III, p. 120, referring to p. 312 in an anthology compiled by Garretson, Olmstead & Hayton. It was not made transparent, though, that this formulation comes from an (unnamed) professor of law who wrote it in 1967 – in the context of ‘international drainage basins’, a concept in itself rather unfamiliar to lawyers at the time.

²¹¹ Report, Vol. V, pp. 99f.

²¹² This *laissez-faire* nature of the judicial procedure and function of the court will be discussed in more detail later. Cf. Sathe, pp. 195f.

²¹³ Cf. Report, Vol. V, p 103.

garding the population of various towns and cities in the Cauvery basin”.²¹⁴ However, it was determined as 150 lpcd for the Bangaloreans.

Another questionable example is that by the time of the Final Order, the Government of Karnataka was allocating 19 TMC yearly (1,469 MLD) to Bangalore from the Kaveri, for the Water Board to supply its customers with.²¹⁵ According to the Report, Karnataka stated the total existing and ongoing water supply as of June 1990, within the State’s whole part of the basin, at 28 TMC. It then claimed 22 additional TMC.²¹⁶ This added up to 50 TMC. The claims were, however, dismissed: the Report cites that Karnataka, in June 1990, had “indicated that existing and ongoing drinking water schemes *for the city* were for 6.52 TMC and 8.00 TMC totalling 14.52 TMC” (*sic*, emphasis added).²¹⁷ The Tribunal decided to consider ‘the existing requirements’ according to the latter ‘indication’, i.e., as 14.52 TMC.

The claim made regarding Bangalore’s needs was clearly exaggerated by Karnataka; but even so, the Tribunal should have given a proper explanation of why it based a decision on data more than 15 years old, and without consideration of the growing demands since 1990 or for the future. It is difficult to see that water for drinking was prioritised by the Tribunal over other purposes.

The debatable assumptions do not end there. As mentioned above, the topography of Bangalore brings only the western part of the city (as per the boundary prior to January 2007) within the Kaveri river basin, whereas the rest drains into another basin. In the Tribunal’s Report, it is simply concluded that “since very accurate determination of the city area is difficult it has been considered that the city area falls – 1/3rd in the basin and 2/3rd outside the basin – which was repeatedly mentioned during the arguments” (*sic*).²¹⁸

No map has been found on which the administrative boundaries of Bangalore *and* the river basin boundaries are marked, and it has proved impossible to calculate where the ridge that divides the city runs. Different maps show this boundary somewhat differently (*Maps 4-6* below), and what seems to be the only available topographical map, surveyed in 1962-1963, is to a scale of 1:250,000; thus not very detailed. Establishing the location of a water divider cannot be done with absolute certainty; especially the direction which run-off from precipitation takes in an urban environment is influenced by factors other than topography.

Yet, it appears that the Tribunal decided on proclaiming a third of the Bangaloreans as entitled to Kaveri water, rather than those clearly situated within the river basin. The details in this regard remain to be explicated by interpretation.

²¹⁴ Report, Vol. V, pp. 98, 102.

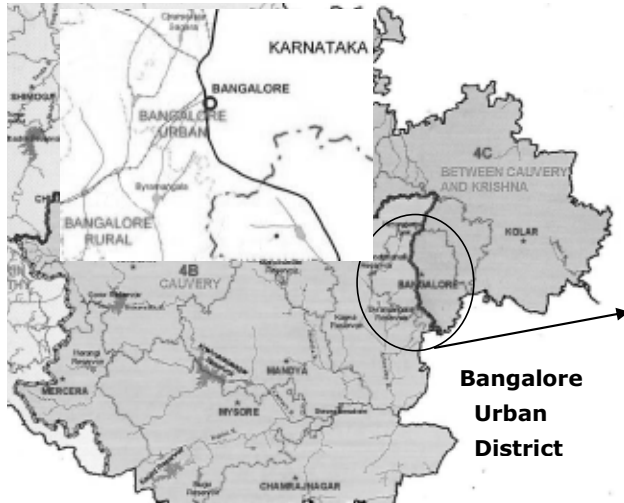
²¹⁵ The amount is referred to in several newspapers and in Tsuchiya, p. 1, as being in accordance with an agreement between Karnataka and the parties downstreams, valid up to 2010. As mentioned above, the Water Board only drew some 11 TMC from Kaveri at this point.

²¹⁶ Statement of Case, KAR-1, pp. 161-163, filed September 1990, as cited in Vol. IV, pp. 148f. The Water Board’s future needs for Bangalore were broken down as 30 TMC, and for rural areas Karnataka required 10 TMC more.

²¹⁷ Report, Vol. V, pp. 101f.

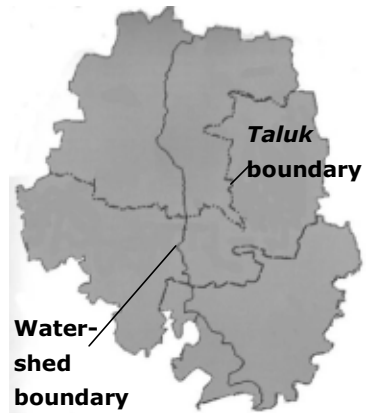
²¹⁸ Report, Vol. V, p. 101.

Map 4. River basins. Bangalore Urban District marked.
Inset: Map 5. Basin boundary through Bangalore.



Adapted from KRSAC, p. 17. Inset: Plate No 2, Cauvery Water Disputes Tribunal.²¹⁹

Map 6. Bangalore Urban District, divided into three Taluks and two watersheds.



Adapted from Department of Mines & Geology and CGWB, p. 58.

Neither has any map been found which shows the East *Taluk* of the Urban District (cf. Map 6), or the former and/or present boundaries of Bangalore Corporation within the District.

5.3.4 Domestic purposes as by consumptive use

In allocating water for domestic purposes, the Tribunal assumed that one-fifth of the water taken from the Kaveri would be fully consumed and depleted from the river basin, whereas the rest would come back to it as ‘return flow’.²²⁰ Water requirements for domestic and municipal supply within the basin were thus measured “[b]y 20 per cent of the quantity of water diverted or lifted from the river or any of its tributaries or from any reservoir, storage or canal”.²²¹ In the case of Karnataka, the consumptive use thus “works out to 1.75 TMC” according to the Report – but for Tamil Nadu, “[t]he consumptive use @ 20 per cent of the surface water works out to 2.20 TMC which has to be allocated in the share of the State” (*sic*, emphasis added).²²² The difference between the formulations did not result in any difference in the Final Order, but indicates that the Tribunal lacks some understanding of how the allocations are to be measured in relation to the portion which is consumed: the *allocation* must be five times the amount estimated as consumptive use.

²¹⁹ The Administrative Map of Cauvery Basin and Adjoining Areas was prepared by Tamil Nadu.

²²⁰ Vol. V, pp. 100f.

²²¹ Clause XIV.

²²² Vol. V, p. 103.

The way in which the consumptive use and return flow were calculated was also not completely in line with current scientific methods. The FAO defines consumptive use as that “water is abstracted and used off-stream, with limited or no return flows returned to the watercourse of origin”, in contrast to non-consumptive use which includes fishing, hydro-power generation, recreation and the like.²²³ The U.S. Geological Survey determines the percentage of ‘consumed water’ from what is ‘lost’ due to incorporation/consumption into products, crops, humans and livestock; evaporation/transpiration; inter-basin transfers; and groundwater recharge/seepage. Though this water remains in the hydrological cycle, it is not ‘available to the river’ during a period.²²⁴ In addition, *Peter Gleick* refers to ‘consumptive use’ or ‘consumption’ also when water has been “withdrawn from a source and *made unusable* for reuse in the same basin, such as through... contamination”.²²⁵ A large amount of the water used for domestic purposes will be returned to the system as untreated sewage²²⁶ and might therefore not be available to other potential uses within the accounting period (depending, though, on standards of quality for different uses). All in all, the amount of water that is consumed from the Kaveri by domestic use can be presumed to be *larger than 20 percent*. This affects the total flow of the river; and it can further be assumed that this effect will increase. Already, very little water reaches the Delta in the Bay of Bengal.

5.4 After the Order

5.4.1 Appeal

The parties, all of which felt aggrieved in one way or another, had the option of calling the Tribunal’s Order into question within three months. The decision of February 2007 was ‘final’ in the sense that no mechanism for appeal to a higher court is provided in the Disputes Act. Nevertheless, its Sec 5(3) stipulates that if a State or the Central Government ‘requires explanation’, the matter can be referred back to the Tribunal for further consideration. Guidance can also be requested on points not originally referred to it, meaning that new aspects may be raised even at this stage. In response, the Tribunal may within one year submit to the Central Government a ‘further report’ with ‘such explanation or guidance as it deems fit’. The word ‘may’ seems to indicate that it is entirely up to the Tribunal to decide whether it wants to give an explanatory report on request.²²⁷

If a Clarification is issued, the Final Order of the Tribunal shall be deemed to be modified accordingly. It cannot be reconsidered and then quashed on grounds of procedural, legal or factual errors. Likewise, the 1,000-page Report – though not binding – can be supplemented by another, but no part of it can be made void as

²²³ The FAO 2004, p. 17.

²²⁴ Cf. U.S. Geological Survey web page ‘What is consumptive use?’.

²²⁵ Gleick 2000, p. 41/box 3.1.

²²⁶ As mentioned above, only *ca.* 40 percent of Bangalore is covered by sewerage networks.

²²⁷ Cf. that the same word in Sec 4 of the Bill was changed to ‘shall’ by Parliament when the Dispute Act was passed in 1956.

such. Both the Final Order and later clarifications must be officially published by the Central Government.

Karnataka State decided to object to, among other things, the fact that the use of groundwater in Tamil Nadu was not taken into consideration, a point also questioned by Kerala. Karnataka also raised the issue of water supply to Bangalore, contending that 'more than one-third of Bangalore falls in the Cauvery basin'. Besides seeking clarification from the Tribunal on these issues, Karnataka, Tamil Nadu and Kerala also filed petitions under Art 136 of the Constitution for the Supreme Court to grant special leaves to appeal to it. The Court allowed these, though the Justices told the parties to try to find an amicable solution to the problem of sharing, as the Court could not be the final arbiter and a judicial order cannot bring more water. Rather, modern scientific methods were preferred. The Justices observed that unchecked construction in the country's major cities vanquished all sources of water harvesting and conservation, such as in tanks.²²⁸

Karnataka also filed a suit under Art 131, questioning the setting up of the Tribunal in the first place and claiming that the Supreme Court had the original jurisdiction, to the exclusion of any other court. As indicated above, Karnataka has not acknowledged the Tribunal as a legitimate decision-maker over issues relating to its territory. – Without doubt, the Tribunal neglected, and/or lacked understanding of, many facts and conditions in the complex dispute over Kaveri's waters, but this does not warrant an appeal being granted by the Supreme Court, especially as the Court is barred from entering upon the factual aspects and directing the parties related to substantive matters of an inter-State dispute. It is therefore unclear whether the Supreme Court will allow this petition, and when it will deal with the ones filed under Art 136. Regarding the Tribunal, its Clarificatory Order will come in August 2008 at the earliest, if previous inter-State Tribunals are anything to go by.²²⁹

P. Leelakrishnan has indicated that the rights of States have taken precedence over the welfare and rights of people living in the riparian regions in different States. He continues that, however, in the above-mentioned *Narmada* case, the majority of the Judges of that Tribunal argued that not only the people living on the banks of the river but also the people pining for water in the arid and semi-arid regions of other States would benefit from the raising of a dam on the Narmada River.²³⁰ Some of the points made in this case might be of interest to the Supreme Court when determining the sharing of Kaveri's water. The questions of equity, ne-

²²⁸ Anonymous 2007g; Anonymous 2007j. Under Art 136, the Supreme Court does ordinarily not reappraise any evidence for itself in order to determine whether or not a lower court or tribunal has come to a correct conclusion on facts. Only where the real points requiring determination have been completely missed and evidence has been discredited on erroneous grounds would the Court be justified in going into the evidence to avoid grave injustice, as laid down in *Sham Sunder v. Puran*, 1990 (4) SCC 731.

²²⁹ However, it can also take much longer. The River Krishna Tribunal gave its Final Award on December 24, 1973 and the Clarificatory Order on May 27, 1976.

²³⁰ Leelakrishnan, p. 116; *Narmada Bachao Andolan v. Union of India* AIR 2000 SC 3751.

cessity, and right to (drinking) water as a fundamental attribute of the right to life need to be discussed in depth.

5.4.2 The Order's practical significance

Pending a decision with legal force on the Kaveri, Karnataka is continuing to use the water according to the existing regime, including pumping water to supply Bangalore – now three times larger – via the Water Board. Being in the upper riparian area, it has geographical advantage over the other parties to the dispute.

Any future adjustment of Karnataka's share would have to be made at the expense of its existing irrigation schemes.²³¹ The dispute and the Final Order already contribute to internal antagonism – between different sectors of water users, i.e., farmers needing water to produce food versus the public Water Board that supplies drinking water; between locations, that is villagers versus city dwellers; and between approaches, i.e. scientists versus politicians versus judges and legislators, and so on. A leading politician in Karnataka exclaimed that the Order “set the people of the State against themselves and created rift among urban and rural people”.²³²

5.4.3 Summing up

From the above account of the dispute-settlement body and process, we can note that the formal legal system seems charged with tensions: both State governments and water users express distrust of the Tribunal and display disrespect. Protests mark the perception of the Order among, predominantly, farmers.

Neither the Final Order nor the Report is easily understood – many formulations, calculations, and their respective bases simply do not make sense. Some information is seemingly unavailable, such as details of the agreement between the Government of Karnataka and others about allocating as much as 19 TMC to Bangalore's Water Board yearly up to (and including?) 2010. This agreement was not mentioned in the Tribunal's Report and we must conclude that counsel for Karnataka did not bring it up during the proceedings. What is most difficult to understand, though, is the lack of forward-looking displayed. Old data, outdated figures and pre-historic agreements are the foundation of the decisions made. This strikes a discordant note with the development India undergoes, and has certainly underwent since the dispute over Kaveri begun.

Instead of the 11 TMC that the Bangalore Water Board was thus pumping at the time of the Final Order and the more than 17 TMC (1,350 MLD) to be pumped once the Cauvery Water Supply Scheme Stage IV Phase II is fully implemented in 2011, only 14.52 TMC are thus allowed. The decision to take into account one-third of Bangalore meant taking into account the needs of one-third of the Bangaloreans, and disregarding completely – with no discussion – the factual needs of the people living beyond this border. As far as the Tribunal was concerned, jurisdiction and interest alike seemed to have stopped at this.

²³¹ Salman 2002, p. 233.

²³² Anonymous 2007e.

In terms of the consumptive use and allocation of water to the States, it must be seen as a grave misconception to calculate with an 80 percent return flow from a share, and to overlook issues of time lag, quality deterioration, possible losses from groundwater recharge and abstraction from wells, evapotranspiration, etc. An error in the figures here means that the amount of water that Karnataka must release to the parties downstream is not duly lessened by what has actually been abstracted for domestic use by the State's population.

5.5 Alternative ways of settling the dispute

Already in its 1990 judgment the Supreme Court took 'judicial notice' of the fact that the Government at the Centre was led by one political party while the respective Governments of Karnataka and Tamil Nadu were led by different parties. However, the Court notes, there was a time after the dispute arose when one and the same political party was in power and perhaps if the Centre had intervened effectively then, there would have been a considerable chance of settlement by negotiation.²³³ As of now, the political will is weak as there are too many vested interests to ponder.

Meanwhile, efforts have long been made to find an arena for 'multi-stakeholder dialogues' for one of the sectors involved, the farmers. The 'Cauvery Family' was formed in 1992 by an academician of the Madras Institute of Development Studies (MIDS) and a Professor of the same institute still convenes and facilitates the group. It has provided a platform to farmers of Karnataka and Tamil Nadu to exchange views and feelings, rid the issue of the mistrust that has built up over generations and, not least, bridge the information and communication gaps stemming from the confidentiality imposed by both States. Visits to each other's regions have been paid for better understanding of the problems and the potential for the farmers' mutual welfare.²³⁴

Although the potential for non-governmental initiatives seems large at first sight, it is also apparent that the sharing of a river is an extremely complex matter and that far more aspects and angles need to be taken into account than has been the case, at least by the Tribunal. The secretary of the Cauvery Delta Farmers' Welfare Association in Tamil Nadu and a member of the Cauvery Family has asserted that if Karnataka refuses to implement the Order, then "everything depends on the availability of water".²³⁵ A speaker on behalf of the Family's equivalent, the Karnataka *Rajya Raitha Sangha*, has, in turn, said that the Final Order of the Tribunal would not be acceptable if it was seen to be unfair to Karnataka.²³⁶

A former World Bank representative with long experience of irrigation, reservoirs, and dams in the Kaveri area has noted that, in practice, the river has been managed over the phone by the Chief Minister of Tamil Nadu begging the Chief

²³³ *Tamil Nadu Cauvery Neerppasanavilainpurngal Vivasayigal Nal v. Union of India & Others.*

²³⁴ Subramanian; Anonymous 2006c; Janakarajan (undated).

²³⁵ Subramanian.

²³⁶ P. Menon 2003.

Minister of Karnataka to release water during periods of drought.²³⁷ This is of course highly incompatible with the rule of law in terms of predictability, transparency, equality of rights, etc. Nor is it a solution that takes account of an integrated, holistic or sustainable approach, or appreciates that the Kaveri is the lifeline of many millions of people. Yet, it is extraordinarily important to take into account all the diverse and contrasting needs of water users, and no issue can be left to politicians nor to researchers or judges alone.

The Kaveri dispute will be analysed again in Chapter X. The next sub-section will deal with urbanisation and how the city has grown to become Greater Bangalore. The question is what, from a water access point of view, happens when formerly rural areas are administratively incorporated with urban?

6 (Peri-)urbanisation and Greater Bangalore

6.1 *Understanding the processes*

As outlined above, the city of Bangalore now comprises a core area – the former Corporation (BMP) – and eight municipalities and 110 villages that surround it. The administrative decision to join all these units and bodies into one jurisdiction was taken as a result of the urbanisation and peri-urbanisation which the larger area had undergone during some fifteen years. Although urban growth in India has been slow compared with that in many developing and newly-industrialised countries, it is generally expected to speed up, especially in certain agglomerations. The urban dwellers accounted for almost 28 percent of the total population in 2001, expected to increase to just over 33 percent by 2026.²³⁸ By another projection, India will have almost half of its population in urban areas in 2030 – meaning that every eighth person in the urban world (12.39 percent) will be living in India.²³⁹

Structured planning of a city's enlarged layout, including the possibility of progressively developing infrastructure and gradually improving the capacity to manage water supply, sewerage systems and like services are clearly the keys to managing the outcomes of continuous urbanisation. This task is all the more demanding where urban centres grow very fast, as Mexico City, São Paulo, Buenos Aires, Dhaka, and Jakarta have shown. These cities witnessed explosive growth after 1960 – between 1950 and 1975 the population of Mexico City grew more than four times. *A.K. Bismas* has described how in the Latin American mega-cities, the overwhelming demands and pressure from the great increase in population became quite unmanageable and the overall quality of life declined rapidly as a result. This had much to do with the poor economic performance of the countries in question, coupled with high public debts, underdeveloped governance structures, inefficient

²³⁷ Personal communication, former World Bank officer. March 16, 2007.

²³⁸ Census India 2006, Figure 12. However, the State-wise proportion of population expected to live in urban areas by 2026 is 98 percent in Delhi and only 11 percent in Bihar. In Karnataka, it is projected to rise to 42 percent.

²³⁹ Raju, Praveen & Anand, p. 4.

systems for resource allocation, lack of proper planning, and the pervasive corruption that distorts the distribution of finance, etc.²⁴⁰

In comparison, populations in cities such as London and New York grew over a long period, starting in the nineteenth century. As the mega-cities of the industrialised countries slowly expanded, their economies grew alongside. This supplied the economic ability to harness the financial and human resources necessary to cope with water-related services.²⁴¹ The longer time scale should also have allowed the early-industrialised countries to develop technical know-how and build up capacity as demand grew.

In the discussion of water supply and sanitation services, the mega-cities of the developing world (defined as having more than 10 million inhabitants) have attracted most attention. Nevertheless, it is in the medium-sized to small urban centres where the majority of the developing world's population live and where, according to UN predictions, the growth rate will be largest.²⁴² Thus places like Bangalore are likely to attract a continued influx of people, increasing the pressure for solutions to infrastructural problems.

In theory, increasing urbanisation results in greater competition between the urban areas and the rural. Where the latter supply the natural resources – imported to the cities in raw or transformed form – the former produce goods and services with a higher GDP value. But the city also delivers sewage, waste, and pollution in high concentrations – most of which is again transported to the hinterland. Freshwater is one of the resources increasingly required, taken from increasingly larger distances. Dependence on the supplying surroundings is almost total in cases such as Bangalore. In addition to water for drinking and other domestic needs, there is a large import of 'virtual' water in food and other products.²⁴³ All in all, the requirements are growing and becoming more complex.

However, where is the line to be drawn between the urban, water-short city and the supplying rural hinterland? It is clear, not least from the map of Bangalore, that the rural and the urban cannot be viewed and treated as two distinct geographical entities. Although there are definitions²⁴⁴ of what makes a settlement urban – such as population density, size, socio-political and economic importance, land use, infrastructure and governmental organisation – these features seldom characterise the entire area referred to as a city. Instead, we find that the nature of the city lies in the understanding of it as an accumulation of human dwellings, administrative func-

²⁴⁰ A.K. Biswas, p. 189, adding that many of these cities have been able to handle the provision of water supply to some extent, whereas the sewage and waste water treatment facilities are still sadly neglected.

²⁴¹ *Ibid*, pp. 188f.

²⁴² *Ibid*, pp. 185, 188; UN Population Division 2002.

²⁴³ The concept of 'virtual' water, as invented by *Tony Allan*, refers to water embedded in food or other products from their production. Sometimes called 'water footprint'.

²⁴⁴ These definitions vary greatly between countries. If e.g. India and China were to recognise all human settlements of a certain size as being 'urban' in their statistics – in other words, change their definitions – a substantial part of their populations would also be characterised as 'urban'.

tions, legal jurisdiction, industries, etc., in a certain geographic area, and hence in relation to its surroundings.

As one moves away from the core or centre of a city one often sees how heterogeneous its formation is. 'The city' expands and disperses both geographically and in our picture of it. Many contemporary scholars and policy-makers are therefore applying a wider and more integrated comprehension concept of urbanisation and change as *processes*, stressing that the artificial distinction between urban and rural is inadequate and misinforming.²⁴⁵

The concept of the 'peri-urban interface' is all the more important,²⁴⁶ not least to see how "[f]lows of people, goods and wastes, and the related flows of information and money, act as linkages across space between cities and countryside"²⁴⁷ This peri-urban area is comparable with what was earlier defined as the rural-urban *fringe*.²⁴⁸ Since the 1980s, more and more empirical studies have been connecting the cities with the countryside.²⁴⁹ For instance, most Asian countries have cities which are expanding fast, but remain surrounded by a populous rural area with productive agricultural land.²⁵⁰ Field research has also shown that settlement patterns in Asia differ from what is traditionally perceived. They show growth of rural areas close to cities and along highway corridors; a combination of productive but mainly small-holder agriculture with non-agricultural occupations; and highly spatial interaction of economic activity. Within the areas closest to the city itself, this trend is often enhanced by the possibility of daily commuting to work.²⁵¹

Urbanisation is, per definition, the increase in the proportion of people living in towns and cities, and is thereby often seen as de-population of rural areas. It is, however, not only a result of natural population growth (i.e., births minus deaths) coupled with migration of people into the city: it also involves processes by which the city boundaries expand outwards. In Bangalore, a large part of the population increase can be attributed to the repeated addition of new areas to the urban agglomeration.²⁵²

Before exploring some relevant aspects of the growing Bangalore, we need to understand how the administrative powers are divided between the federal Centre and the States and between the rural and the urban; and how this in turn affects the decision-making and governance of water supply.

²⁴⁵ Cf. Pinto.

²⁴⁶ Allen 2003.

²⁴⁷ Tacoli 1998, p. 160.

²⁴⁸ Bentinck, p. 19.

²⁴⁹ Cf. Tacoli's literature study from 1998.

²⁵⁰ McGee, 1987, 1991.

²⁵¹ Bentinck, p. 19.

²⁵² Cf. JNNURM; Centre for Policy Research, quoted by KUIDFC, p. 3.

6.2 Division of administrative powers

6.2.1 Constitutional provisions

The Indian federal government system is a three-tier structure, dividing legislative and administrative power and institutional responsibilities between the Centre (the federal Union), the States (and Union Territories), and the local level. Each State has its own system of further subdividing the administration and here, only the situation in Karnataka will be described.

This division of legislative, etc., power between the Union and the State Governments is regulated in the Constitution (Art 246). Different subject areas of legislation are enumerated in three lists in the Seventh Schedule under the Constitution. The matters listed are also discussed in terms of functions of the States. The *Union List* refers to the inter-State rivers; mineral development, etc. The *State List* includes local government/urban planning; public health and sanitation; land; and water (defined as 'water supply for domestic, industrial and commercial purposes', Twelfth Schedule to the Constitution). The *Concurrent List* enumerates subjects over which the jurisdiction is shared between the Union and the States.

The Indian Parliament has exclusive, residuary powers to make any law with respect to matters not enumerated in the State or Concurrent list (Art 248).²⁵³ Since there is no entry relating to 'Environment', laws on control of pollution have been enacted under these residuary powers. In addition, the UN Conference on the Human Environment in Stockholm, 1972, made an imprint on the Indian Constitution (Forty-Second Amendment Act, Art 253). More legislative powers were consequently conferred on the Union Parliament, enabling it to make laws to implement India's international obligations (formulated as 'any treaty, agreement or convention' as well as 'any decision made at any international conference, association or other body'). Parliament has used its extraordinary powers to enact the federal Air (Prevention and Control of Pollution) Act, 1981, and the Environment (Protection) Act, 1986.²⁵⁴ The Environment Act regulates the control of effluent discharges from economic activities (industries, handling of hazardous substances, and the like), with some effects also on water.

The three-tier system is a way of furthering decentralisation from the Union level, via the State Governments to the local. The Constitution provides for a dif-

²⁵³ The division of power between the federal level and the component States in India is based on the principle that powers not explicitly granted to the provincial governments are retained by the federal government (which is the opposite of what applies in the federation of the U.S.A. and in Australia).

²⁵⁴ The legal basis for Parliament's decisions was Art 253 read with Entry 13 of the Union List. The Preambles to both the Acts refer to the decisions taken at the Stockholm Conference. The formulations in the Environment Act in turn enabled the Ministry of Environment and Forests to decide on the binding Coastal Regulation Zone Notification, 1991, in spite of there not being any corresponding international obligation to implement, and though 'water' is clearly a State subject. The Water (Prevention and Control of Pollution) Act, 1974, was enacted by Parliament pursuant to consent resolutions passed by 12 State Legislatures.

ference between the rural and the urban, which can be described as village *Panchayats* and municipalities, respectively. Both “may by law be endowed with such powers and authorities as may be necessary to enable them to function as institutions of self-government” (Art 243G and 243W, and the Eleventh and Twelfth Schedule, respectively). Some more details are given below.

The State Legislatures’ exclusive power to make laws with respect to the various functions on the State List naturally also confers responsibilities. In other words, the legislative competence is coupled with duties and obligations to perform on the listed subjects. The Constitution (Art 243W) is nevertheless formulated in a manner which ultimately allows each State Government to decide whether, and how far, it wants to further decentralise these functions to the municipalities and *Panchayats* by devolving power to them. It seems that, in practice, responsibility in areas such as water supply is handed down but the formal delegation and, more importantly, the funding does not always follow. For environmental issues, the Supreme Court has laid down that government agencies may not plead non-availability of funds, inadequacy of staff, or other insufficiencies to justify the non-performance of their legal obligations.²⁵⁵ This should make the competent authorities hard-pressed in terms of accountability; all the same, they commonly refer to their lack of sufficient means.

‘Local government’ on the State-list is to be read as the “constitution and powers of municipal corporations, district boards, and other local authorities for the purpose of local self-government or village administration” (Entry 5, List II of the Seventh Schedule under the Constitution). This provision was supplemented with new ones, inserted under the Constitution (73rd and 74th Amendments) Act, 1992.

Some States also have an important intermediate level, in Karnataka known as *Taluks* (or *Taluka*, sometimes referred to as ‘block’), which functions as an administrative unit above city or town but subordinate to district level. Under the *Taluk* level come wards, functioning as constituencies. A number of seats are allotted in each, with seats reserved for representatives of the *dalits*, Scheduled Tribes, and other backward (low-caste) communities in relation to their proportion of the population of the ward.²⁵⁶ One-third of the seats are reserved for women. The term of office is five years, and positions as President (Chairperson) and secretary are rotated each term as a means of affirmative action.

The provisions on direct elections and reservations of seats to the decision-making bodies apply also in the municipalities and villages.

6.2.2 Municipalities: towns and cities

Urban areas can have either the status of city municipalities or city corporations.²⁵⁷ The population, density of population, revenue generation, rate of employment in

²⁵⁵ *Dr. B.L. Wadebra v. Union of India* (Delhi Garbage Case) AIR 1996 SC 2969, p. 2976.

²⁵⁶ It should be noted that Muslims, Christians, and people belonging to other religions are not part of the reservation system. This is only one of the many flaws it inherits.

²⁵⁷ There are two more classifications; Town Panchayats (TPs), with a population of 10,000-20,000, and Town Municipalities, with 20,000-50,000 inhabitants. A City Municipality has 50,000-

non-agricultural activities, economic importance, and other factors, determine whether a town or city is to be defined as a ‘smaller’ or ‘larger’ urban area. Geographical re-classifications are common, the Bangalore Corporation and its adjacent municipalities being one such case. Urban areas are run by Urban Local Bodies (ULBs), consisting in turn of many administrative hierarchies.

Since January 2007, the Corporation of Greater Bangalore is called *Brubhat Bangalore Mahanagara Palike* (BBMP), instead of the former *Bangalore Mahanagara Palike* (BMP). A Corporation is run by a Council comprising elected representatives (‘corporators’), one from each ward. Bangalore was previously divided into 100 wards but the number is now raised to 150.²⁵⁸

The term of the last Council ended on November 23, 2006 and elections were yet to be held one and a half year later. The state of flux without proper leadership is explained as due to delays with delimitation of wards and finalising voter lists. In the absence of an elected body, the Corporation was run by an Administrator and a Commissioner, appointed by the State Government.²⁵⁹ In February 2008, the second civic budget in a row had to be decided on in the absence of a Corporation council. The budget did not even have participation of the people’s representatives, contrary from what is prescribed in the Karnataka Municipal Act, 1964. – Since October 2007, there were no Ministers of the Karnataka Legislative State Assembly, either, as the Government had resigned and the State was ruled by President’s order from New Delhi.²⁶⁰ In May 2008, elections to the Assembly were held.²⁶¹

Apart from the Karnataka Municipalities Act, the Karnataka Municipal Corporations Act 1976, apply. The latter is more detailed in its provisions. Both the Municipalities Act and the Corporations Act were amended in 1994 as a result of the 74th Amendment to the Constitution. As a result, the ULBs were reconstituted. Hence, it is now expressed as an obligation of the respective bodies to exercise certain powers and perform various functions (Sec 87, the Municipalities Act; Sec 57-58, the Corporations Act).

To carry out their responsibilities, the municipalities have been empowered to levy certain taxes and fees. The ULBs’ main sources of income are taxes on buildings and land, user charges for water supply (water cess), and licence fees for regulating the building construction and fees from other trade licences. The State Government furthermore transfers a portion of its general revenues. In addition, the

300,000).

²⁵⁸ The Corporation Act has been amended by the Legislative Assembly from May, 2007, as the number of councillors in a corporation could not exceed 100, Sec 7(1)(a). By the Karnataka Act No. 14 of 2007, the words “one hundred fifty” were substituted for the word “hundred” in the Karnataka Municipal Corporations Act, 1976 (Sec 7(1)(a)).

²⁵⁹ The safest way to obtain updated information on Bangalore’s civic and administrative situation is to consult Wikipedia web pages ‘BBMP’, ‘Bangalore’. The home pages of the responsible authorities seem to be updated once in a couple of years.

²⁶⁰ Itnal.

²⁶¹ The future of Bangalore and Karnataka’s leadership was determined after the publication of this study.

municipalities can raise loans from the Central and/or State Governments and financial institutions to meet expenditure under capital heads of accounts.²⁶²

6.2.3 Village Panchayats: local self-governance

The *Panchayati Raj Institution* (here: *Panchayats*) was traditionally an assembly of the five elders of the village community: nowadays the term refers to an elected council having Government power decentralised to it. Since the 73rd Amendment to the Constitution was enacted in 1992, the State Legislatures have been able to bestow on the *Panchayats* “such powers and authority as may be necessary to enable them to function as institutions of self-government” (Art 243G). The Constitution further provides for devolution of powers and responsibilities to the *Panchayats* for preparation and implementation of economic plans, etc. in relation to twenty-nine subjects listed in its Eleventh Schedule. Each State has its own, more detailed legislation for devolution of power, authority and responsibilities for the rule of the rural areas. The Karnataka *Panchayati Raj Act*, 1993, provides in Sec 58(1) that the *Grama Panchayat* is vested with the power to perform certain functions, including preparing annual plans for the development of the *Panchayat* area, and receives an annual budget.

The *Panchayat* system of governance in India has *Grama Panchayats* as the basic unit of administration, consisting of one, but mostly several, revenue villages. Villages can also be grouped into a cluster, a *hobli*. In most States, such as in Karnataka, there are two levels above the *Grama Panchayats*: the *Taluk* and district (*Zilla*) *Panchayat*. To a certain extent, the *Grama Panchayats* answer to the *Taluk* and *Zilla* levels of government.

Meetings in the form of ward *Sabha* and *Grama Sabha* must be held regularly (at least every six months) and comprise a certain minimum of those living in each ward and village, respectively. These meetings have no decision-making power but forward recommendations, and function as arenas for discussion with the elected members of the *Grama Panchayat*. The *Sabha* meetings are required to be open for everyone but in reality, villages are often overtly divided along gender, age, caste, community, educational and political party lines, resulting in groups being left out by not being properly informed and invited, or listened to. This reflects the strong traditional norms existing in essentially all villages, which often undermine the legislator’s (and, possibly, *Mahatma Gandhi*’s) intentions to provide for democratic self-rule. The problem is only partly linked to a low level of education, as India has an oral tradition of information and knowledge transfer to illiterate persons. Rather, ignorance of the rights and obligations conferred by the formal law, as well as deliberate exclusion of untouchables and/or of women, is the deeply entrenched problem.

The same goes for the election of at least one-third women as *Panchayat* members, and of *dalits* and others in proportion to their number. Women tend to remain

²⁶² Itnal; Karnataka Department of Municipal Administration, web page ‘Municipal Administration’.

puppets, as many of them cannot move around freely without having their husbands take them and sometimes speak for them as well. – However, I also met plenty of female *Panchayat* presidents who proved to be as outspoken, determined and well-informed (and sometimes also corrupt) as anyone else. There are also concentrated efforts to raise the level of awareness through Central government-sponsored schemes such as PRIA, which show very good results from training elected members.²⁶³ Access to information is also spreading incredibly fast along with education, electricity, TV-sets, mobile phones, motorcycles, and other means of communication.²⁶⁴ Proximity to towns, and towns nearing themselves to villages, are likely to result in progress also in terms of democratic governance: insights into less traditional ways of living stretch the norms for ordering the community and representing it in the council.

6.2.4 Water governance at local level

6.2.4.1 Division and planning of the subject ‘water’

The administration of water supply is likewise divided between the levels. The Central Government plays a role in water management, though this is limited to formulating policies, framing guidelines, monitoring the water resources and optionally financing some projects. To cater for the national perspective, the Centre takes a co-ordinating role on certain issues. For instance, the Union Ministry of Urban Development formulates the policies and strategies pertaining to various aspects of India’s urban development, including water supply, sanitation, and municipal solid-waste management.²⁶⁵ The Centre also acts to attract foreign investment and loans from, e.g. the Asian Development Bank and the World Bank, as well as development aid, not least with the aim of building infrastructure in the water sector. As described above, the Centre also sets up Tribunals for inter-State river disputes.

Concerning groundwater, a Model Bill has been drafted by the Central Government (Ministry of Water Resources) as a template for States to enact their own legislation (*cf.* Chapter IX). Despite legislative action taken for air, the coastline, and the environment in general, it is perceived as impossible for the Centre to legislate on behalf of the States on this matter.

At State level, the subject ‘water’ includes “water supplies, irrigation and canals, drainage and embankments, water storage and water power” (Entry 17, List II, Seventh Schedule of the Constitution). Each State is thus vested with the constitutional right to plan, implement, operate, and maintain water supply projects. The main functions of the State Governments include development and management of the water resources situated within their borders. This function is carried out

²⁶³ Personal communication, PRIA officer. March 4, 2005, December 8, 2006.

²⁶⁴ Access to the internet is likewise spreading rapidly among the rich and well-educated landowners in the villages.

²⁶⁵ The Central Public Health and Environmental Engineering Organisation acts as an Advisory body at Central level and provides policies, strategies and guidelines on the implementation and O&M of urban water supply.

through the local bodies, to whom a range of responsibilities devolves. It includes water delivery, resource augmentation, purification and other treatment, operation and maintenance of pipes, network and infrastructure, distribution to individual households, and collection of water charges.

In terms of planning, there must be Planning Committee at District level, consolidating the economic, etc., plans prepared at *Panchayat* and municipality levels, and to draft development plans for the district as a whole. These plans must take into account matters of common interest – spatial planning, sharing of water and other physical and natural resources, the integrated development of infrastructure, and environmental conservation. The District development plans are finally decided by the State Government (Constitution, Art 243ZD).

6.2.4.2 Karnataka and Bangalore

In Karnataka, the Municipal Corporations Act provides for Planning Committees in the State. In addition, under the Karnataka Town and Country Planning Act, 1961 the Bangalore Development Authority (BDA) is the body responsible for the city of Bangalore. Its large jurisdiction (the Bangalore Metropolitan area) comprises some 550 villages around the city.²⁶⁶ As well as Bangalore's Urban District Planning Committee, the city as a Metropolitan area has a special Planning Committee. This is obliged to draft its own Development Plan for the area as a whole, and must observe the same considerations as to water sharing etc., as at district level. It must also consider the plans of the *Panchayats* and municipalities within the Metropolitan area (Constitution, Art 243ZE). For this purpose, the Bangalore Metropolitan Region Development Authority Act has been enacted. It envisages a jurisdiction similar to that of the BDA.²⁶⁷ The Bangalore Metropolitan Region Development Authority (BMRDA) co-ordinates with, among other bodies, the Bangalore Water Board and is empowered to give it directions.

This administrative structure is indeed complex. The picture of overlapping functions, mandates, and geographical jurisdictions is supplemented by yet others, and the number of authorities involved are possibly explained by the sheer number of employment opportunities it creates.

The management of water supply etc. in the State has been regulated in more detail by law. The Karnataka Municipalities Act contains a provision laying down its obligatory functions, including

“obtaining supply of or an additional supply of water *proper and sufficient* for preventing danger to the health of the inhabitants from the insufficiency or unwholesomeness of the existing supply, when such supply or additional supply can be obtained at a reasonable cost” (Sec 87(j)) (emphasis added).

²⁶⁶ BDA web page ‘BDA Jurisdiction’. Over 50 of these villages are located in the Bangalore Rural District.

²⁶⁷ BMRDA web pages ‘Bangalore Metropolitan Region...’, ‘Statement showing the number of ULBs...’.

The Karnataka Urban Water Supply and Drainage Board, regulated by an Act from 1973, is the body responsible for providing water and underground drainage to the 220-odd urban areas throughout the State. This authority's jurisdiction does not, however, cover the City of Bangalore, which instead comes under a specific scheme (the Bangalore Water Board).

In terms of water management in the rural areas, the Karnataka *Panchayati Raj* Act stipulates that 'providing adequate water supply' is a subject-matter for which responsibility devolves from the State:

“Power for providing adequate water supply.- (1) For providing the area under its control or any part thereof with a supply of water *pure and sufficient* for public and private purposes, the Grama Panchayat *may*,-

- (a) construct, repair and maintain tanks or wells and clear streams or water courses;
- (b) purchase or acquire by gift or otherwise any tank, well, stream or water course, or any right to take or convey water within or without the area under its control;
- (c) with the consent of the owner thereof utilise, cleanse or repair any tank, well, stream or water course or provide facilities for obtaining water therefrom;
- (d) contract with any person for supply of water, or
- (e) *do any other act for carrying out the purposes* of this section.

(2) The Grama Panchayat may, by order published at such place as it may think fit, set apart for the supply of water to the public for drinking or culinary purposes, any tank, well, stream or water course in respect of which action has been taken under clause (a) or (b) or (c) of sub-section (1)” (Sec 77) (emphasis added).

Both ward meetings and *Grama Sabha* meetings are empowered to decide on such things as the location of wells. Groundwater as a natural resource, being the sole source of drinking water in most villages, is however not a responsibility laid on the *Grama Panchayats*. In the Karnataka *Panchayat Raj* Act, the functions 'water management' and 'watershed development' – as listed in the Constitution (Entry 3, Eleventh Schedule) and interpreted as 'watershed development programmes' and 'development of groundwater resources' – are instead to be implemented at *Taluk* level (Sec 145 together with Schedule II of the *Panchayat Raj* Act). It is furthermore a matter for the *Zilla Panchayats* to take 'reasonable' steps – and only in so far as the funds at its disposal allow – to construct rainwater harvesting structures to recharge the aquifers, and to prevent the drilling of irrigation bore wells in the vicinity of drinking-water wells (Sec 184).

The provisions in the Constitution and the Karnataka *Panchayat Raj* Act are very briefly formulated in laying down general powers, mandates and more concise responsibilities. Being vague and abstract means, for instance, that uncertainties are bound to prevail as to how far-reaching the village *Panchayats*' mandate is, or what role its president is expected to play in water-related matters.

6.3 Growing Bangalore

6.3.1 'A city that beckons'

When Bangalore expanded in early 2007, a need for an 'even working field' throughout the city was perceived. It was not the first time administrative decisions had been implemented to enlarge the city. In 1995, the former municipalities were created out of villages, and new ward areas were delimited.²⁶⁸

In terms of population, Bangalore's growth has been quite extraordinary. In 1961 the city was the sixth largest in India, with 1.2 million inhabitants. It is now the fourth largest. Between 1971 and 1981, Bangalore's growth rate was 76 percent – the fastest in Asia.²⁶⁹ Between 1991 and 2001, the urban part of Bangalore District witnessed the country's fastest growth after New Delhi, with almost 38 percent. This is in comparison to an average of 17 percent growth in the entire Karnataka, and 21.34 percent in India as a whole during the decade. The 2001 census put the population of Bangalore city at 4.3 million inhabitants and of the urban agglomeration as 5.7 million.²⁷⁰ Estimations in early 2008 indicated a population in the Metropolitan area of approximately 5.2 million inhabitants whereas Greater Bangalore comprised some 6.8 million.²⁷¹ The figure thus depends on what administrative borders are reckoned with, but also who you ask. The question of population is not easily answered when it comes to Bangalore.

Bangalore has been described in many ways over the centuries: as the garden city, pensioners' paradise, pub capital, India's Silicon Valley, and so on. Each name bears its history and its non-disputed grain of truth but most of all, they serve as representations of what geographical space can mean to its inhabitants and to people looking at a place from outside. Besides, the names depict the changes Bangalore has undergone over time – some of which have come with rapid growth and have led to important transformations of the city.

Bangalore has three plain *pull* factors. Pensioners used to settle in Bangalore because of the peaceful and green environment, and young and well-educated people have more recently been beckoned by jobs in the IT and call-centre businesses (known by companies in Europe and the U.S.A. as Business Process Outsourcing).²⁷² There has been a construction boom since the 1970s, but the rapid economic growth has nevertheless resulted in an upsurge of residential and office

²⁶⁸ Anonymous, 2006d.

²⁶⁹ Vagale, p. 35.

²⁷⁰ The population of a *city* is confined to the statutory limits of respective Municipal Corporations only, and populations of the outgrowths appended to these cities are not included. An *urban agglomeration* is defined as a continuous urban spread constituting a statutory town or city and the adjoining urban outgrowths that are situated within the revenue limits of village/s contiguous to the city.

²⁷¹ The lower figure comes from the World Gazetteer 'India: largest cities and towns...', the higher from the Bangalore Corporation's web page 'Bengaluru City Profile'.

²⁷² The pull is felt as far as the U.S.A. and the U.K. from where tens of thousands Indian technology professionals have arrived back to Bangalore to take up work.

buildings and shopping malls, and infrastructure such as numerous roads, a new airport, a metro system, new water pipes, etc., that in turn draw both skilled and un-skilled workers.

However, there is also a distinct external feature of the wider surrounding region that functions to *push* migrants towards and into Bangalore both from the villages surrounding the city and from most of the neighbouring States. This is because of the huge distress in the agricultural sector, due in turn to a range of factors. The most marked ones are industrialisation and the increased use of machinery, the globalised market, altered food preferences, better education which turns the younger generation from working in the fields.²⁷³ More and more landowning farmers plant eucalyptus or other mono-culture crops that need little attention, and settle with their families in the city. Compounding these factors is the decreasing access to water as the groundwater tables are lowered. Being drought-prone, the majority of agriculture in the area around Bangalore is rain-fed and not irrigated by reservoirs and canals. It is yet too early to draw clear conclusions about climate change effects on precipitation patterns. It seems, though, as if many already leave the rural areas as a consequence of the environmental stress on cultivable land.

It has been estimated that in 2003-04, four farmers a week committed suicide in Karnataka alone.²⁷⁴ The reasons were the same as those distressing agriculture as such. In addition, crop failure, falling agricultural commodity prices, low crop insurance, and severe indebtedness have been pointed out by the media. The widows of farmers who have committed suicide often have to take over the debts and are left to deal with moneylenders. Against this backdrop, migration becomes a necessity for them in their battle for survival.²⁷⁵

As well as the farm-owners and the agricultural labourers,²⁷⁶ people who do not earn their living directly from farming are affected. This is especially true of the uneducated, a group consisting mostly of *dalits* and members of other backward classes (OBCs). Many women furthermore depend on employment as domestic servants in landowning and other middle-class households. As the potential for a non-farm economy in villages can be very low, few alternative ways of earning out a living are present. Together, harsher conditions and requirements for economic adjustments of the agricultural sector are driving people from the rural areas to Bangalore.

Although many migrants probably once intended to return, they are increasingly settling in the city where many needs can more easily be met than in the villages.

²⁷³ Dubash writes in his 'Tubewell Capitalism' that groundwater development has led to extensive agrarian change in large parts of India.

²⁷⁴ Figures for later years have not been found but there is regular and intensive media coverage on the issue, indicating that the numbers are not declining.

²⁷⁵ A. Davis, pp. 6f. and personal communication, multiple occasions.

²⁷⁶ Landless agricultural labourers work on wage basis or crop share basis, whereas so-called bonded labourers are bound to landowners/farmers due to loans, etc. Alternative Law Forum, pp. 95f.

Rather than going back to an insecure income, many people turn their temporary shelters into more permanent homes.

Empirical research into the conditions of people who have moved to Bangalore shows that many migrants stay in the city for eight months of the year and go back to their villages during the monsoon season to tend to the (dry-land) farming. What the family earns from work at the numerous construction sites helps towards debt repayments and for small investments in farming for the coming season. Many live on the pavement, others stay on vacant privately-owned plots – and pay Rs.150-200 per month to the ‘landlord’. It is common for the family to make a small hut out of waste plastic sheets, coconut leaves and other material.²⁷⁷

6.3.2 Planned suburbs, unplanned sprawl

Bangalore shows some ordinary signs of the development of growing cities, but also veritable stages of transition. The area that Bangalore covers has grown tenfold over the past century, from 75 km² in 1901, to over 740 km² in January 2007.²⁷⁸ From a map, the city comes across as rather unstructured but history shows how residential areas were planned and sketched out already by the colonial rulers, for instance with regard to drainage. The city was extended by several suburbs, or layouts, at the end of the 1800s.²⁷⁹ Some were inspired by colonial zoning regulations, according to the ‘gridiron’ or ‘chess plan’, and some were built at relatively elevated sites which facilitated good drainage in times of plague. There was an urgent need for sanitation amenities and water conservation, as recounted above. Both the old part of the city and the Cantonment area had piped water, but the supply was not very secure, as also indicated.

By the 1930s the suburbs had sprawled out and people who could afford to commute by carriage lived outside the city. After Independence, Bangalore grew rapidly in all directions, though with particularly intensive pressure on the inner city. In 1956, Mysore State was reorganised, with Bangalore as State capital, resulting in a major influx of migrants and further extension of the city. The old city and the Cantonment were merged into one entity and grew rapidly.²⁸⁰

In 1986, Bangalore was split into two districts, one Urban and one Rural.²⁸¹ The Urban district was in turn divided into three *Taluk* areas: Bangalore North, Bangalore South, and Anekal, with Bangalore East carved out of the South in 2001.

Back in the 1970s, two well-known features of Bangalore emerged as a consequence of the rapid growth: infrastructure-related problems intensified and land prices started to rise. Developers bought land, and multi-storied as well as com-

²⁷⁷ Alternative Law Forum, p. 87; A. Davis, pp. 6f.

²⁷⁸ In 1991, the Bangalore City Corporation was 200 km² in area and at the end of the decade, it measured 449 km². Nair; Anonymous 2006d.

²⁷⁹ Chamrajpet, Sheshadripuram, Malleswaram and Basavangudi.

²⁸⁰ Vagale, p. 37.

²⁸¹ The Rural district physically almost surrounds the Urban district except in the south-east. Another district; Chikballapur, was carved out of parts of Bangalore Rural during 2007.

mercial buildings began to replace the bungalows. In 1989, the city's open space was four times the built-up area – but by 1980, the proportions had reversed. The idea of satellite townships developed when the core city had reached saturation.²⁸² In 1996, the Urban district was therefore divided into nine municipalities, including the Bangalore Corporation and 668 villages.

Large parts of the municipalities surrounding the Bangalore Corporation were of rural character, where conversion of farmland for other purposes was prohibited. The area also housed residential estates, some of which were gated communities. In addition, the municipalities were the locations of several hundreds of small- and large-scale companies and industries – including the over-100 IT and software companies in the important 'Electronics City' which has given Bangalore its nickname 'India's Silicon Valley'.

According to the 2001 census, the population of the municipalities was 1.2 million, expected to rise to over 3 million by 2021 – but substantial variations in the predictions and population changes across the region were also assumed. The water shortage and quality problems in these municipalities grew day by day with the continuous building of new residential areas and the establishment of companies and factories. These areas were underserved in general, and the poorer social strata were especially badly off. The sole source of water was the groundwater – estimates have shown that about 3,500 tubewells were maintained by the Urban Local Bodies; add to these, thousands of individual tubewells.²⁸³

The municipal tubewells operated subject to power supply, pumping water to storage in underground sumps and then to overhead tanks with the help of motors. From these tanks it was distributed throughout the towns. No treatment was given to the water except for the adding of bleaching powder before pumping the water into the distribution system via underground pipes.²⁸⁴ Water was drawn from public standposts and taps in the streets, and supplied to houses that were of *pukka* type and connected via individual pipes. The water was typically supplied for some hours every other day, or even less often. Households that could afford gas always boiled water before it was consumed. In many areas, people complained that the water was unfit for drinking as it was too contaminated, e.g. with salt.²⁸⁵

Groundwater was sometimes supplied via tankers, arranged for by the municipalities and/or by individual ward councillors, who had connections and contracts

²⁸² Vagale, pp. 39f.

²⁸³ Suresh Babu, p. 38.

²⁸⁴ Personal communication, water supply officers, Yelahanka, November 29-30, 2006.

²⁸⁵ When the situation in Kolar city was investigated by Raju, Praveen & Anand, pp. 11f., it was found that the duration of supply varied from 10 minutes to 24 hours – “depending on the ward and individual political influence in the ward”. Also the type of supply to each household depended on the category of people living in the ward, or in other words, their political influence. “Politics plays a major role in the water supply. The technicians and the engineers in the municipality have little role to play in the present scenario”. The same applied in relation to the level of supply – supplies to the households of “well-known persons in the society (i.e. lawyers, inspector, etc.)” were substantially higher, *ibid*.

with landowners and paid them (or middlemen) with money collected via revenue taxes. In addition to these arrangements, many households drew water from their own wells. It seems that most landowners preferred not to rely on the municipal system but to be self-sufficient in the matter of water for domestic, etc., needs. Many households without a (functioning) well and thus without access to groundwater contacted and paid directly to landowners or middlemen who delivered water more or less regularly.

An important proportion of the water used for drinking and cooking was given or sold per pot (of about 12-15 l). The price per pot reportedly ranged between Rs.1 or 2, rising as high as Rs.5 during summer. In general, this water seems to have been of better quality, possibly because it was not run in pipelines or tapped from seldom-cleaned public standposts. For drinking purposes, many people chose to pay for water which was bottled (and treated – ozonised or disinfected by UV radiation). There were reasons for concern in many places, though: over 60 percent of the 600 tubewells had, for instance, dried up in five years in the (former) municipality of Desarahalli.²⁸⁶

Water requirements for businesses such as the many sprawling IT companies, call-centres and factories that arose in the municipal areas were often met with groundwater from deep tubewells, extensive rainwater harvesting schemes and increasingly also by commissioning the Water Board to deliver water via a network laid exclusively for the company. The latter was the case for the IT companies having many thousands of employees. The Water Board also installed a dedicated pipeline to the new international airport in Devanahalli, some 40 km northwest of the city.

6.4 Summing up

The phenomenon of urbanisation is rather complex in Bangalore, but it follows some characteristic patterns for a city in a developing country as these patterns are understood in the theories of peri-urbanisation processes.

Should there exist any general recipes for the management of growing cities, these should include not allowing development to get out of hand, and introducing flexible regulations to cater for the uncontrollable. This would include a mix of autonomy and integration in the competent authorities. More fundamentally, though: when facing urban sprawl and deciding to incorporate adjacent areas into the city by moving its boundary, this should preferably be done in a transparent, yet determined, manner so that inhabitants and bureaucrats alike know the altered circumstances and the new rules, if any. Surely, Bangalore became Greater Bangalore with the best of intentions – but the change left much to be desired.

In Chapter VIII, we will return to the question of Bangalore's expansion and examine a project to provide Kaveri water to inhabitants of the former municipalities. – Now, however, this first part is rounded off by looking at conditions of pov-

²⁸⁶ Suresh Babu, p. 39.

erty, in India in general and in Bangalore, because access to water is largely a function of poverty.

7 Poverty and access

7.1 Defining poverty

One of the UN's Millennium Development Goals is to halve the proportion of people living on a daily income of less than US\$1 per capita (computed as purchasing power parity, PPP). This measure of absolute or extreme poverty is based on a global poverty line and attempts to hold its real value constant across countries and over time. The one dollar-a-day standard, measured in 1985 prices and adjusted to local currency, was initially chosen for the World Bank's 'World Development Report 1990: Poverty', because it was perceived as typical of the poverty lines in low-income countries.²⁸⁷ India was not included, though, as its mode of calculation is different (*cf.* below). In 1993 PPP prices, the absolute poverty line was US\$1.08 a day, or US\$32.74 per month.²⁸⁸ This was, however, "a deliberately conservative definition".²⁸⁹

In India there is a very obvious difference between the upper and the lower quartile of the population. According to the latest available figures, released in 2007 and calculated for 2004-2005, the share of poor in India is around one quarter of the total population, or about 300 million people today.²⁹⁰ In contrast to the one-dollar-a-day monetary baseline, the country's poverty line (known as BPL) is derived from household consumer expenditure data collected by the National Sample Survey Organisation every fifth year.²⁹¹ The BPL is then set by the Planning Commission, which updates the baseline figures from 1973/74 to reach the amount of money required for a daily consumption of 2,400 calories of food in rural areas, and 2,100 calories in urban.²⁹² These calorie norms are similar over the whole of In-

²⁸⁷ *Cf.* Chen & Ravallion 2004; Chen & Ravallion 2007; the UN Statistics Division, web pages 'MDG Indicators/Population below \$1 (PPP) per day' (with method of computation); the World Bank web page 'PovCalNet'.

²⁸⁸ Chen & Ravallion 2004, p. 147, with references to and analyses of older calculations. The 1993 exchange rates for consumption are used to convert international rural poverty lines to local currencies, Chen & Ravallion 2007, p. 6. In 1993, US\$ 1 was Rs.7.

²⁸⁹ Chen & Ravallion 2007, p. 6. To 'gauge sensitivity', a line set at twice this value (US\$65.48 per person and month) has also been used, commonly referred to as the 'two-dollar-a-day' line. This higher line is more representative of what poverty means in middle-income developing countries, *ibid.*

²⁹⁰ Planning Commission 2007a.

²⁹¹ The last one was published in December, 2006, *cf.* the National Sample Survey Organisation. This is also known as the 'poverty census'.

²⁹² Rs.49 and Rs.57 per person and month as rural and urban poverty lines respectively at 1973 prices. As P. Sen, p. 4611, writes, "[t]he Indian poverty lines are based explicitly on estimates of the *normative* nutritional requirement of the average person in the rural and urban areas of the country separately" (emphasis added).

dia, for women, men, and children, and regardless of all individual or other conditions.

In other words, the official definition of poverty is based on a norm of purchasing power of food items only.²⁹³ The price index used to calculate the level of expenditure corresponding to the respective calorie intake is regularly updated and since the 1990s, it has been State-specific. The urban food basket of 2,100 calories in the State of Karnataka, and thus in Bangalore, is calculated to cost Rs.599.66 per capita and month. The rural poverty line is Rs.324.17, indicating a large disparity depending on geographical location. The all-India poverty lines are set at Rs.356.30 for rural dwellers and Rs.538.60 for the urban dwellers.²⁹⁴

Rs.599.66 monthly converts to US\$15,²⁹⁵ which is about half-a-dollar a day. Only with a monthly income below this threshold a person is registered as poor. This means that if India had set the (absolute) poverty threshold at a PPP of US\$1 daily, or US\$32.74 per month, the official number of poor people would be much greater, and the picture of the country's level of development would look different.²⁹⁶

What is more serious than the official statistics, though, is that Rs.599.66 (as in Bangalore) does not cover expenses for shelter, clothing, hygiene, health care, education, kerosene (the cheapest fuel for food preparation) or other essential commodities. It further excludes the cost of freshwater for drinking, preparing food, etc., where this water has to be purchased. This means that a person who can afford such commodities *and* food equivalent to the set standard of calories is not defined as poor. Conversely, it means that the 300-million-odd people defined as absolutely poor must consume less than 2,100/2,400 calories daily to afford other goods, especially if safe drinking water must be paid for – or make sure to buy some staples at reduced prices somewhere.

Being officially declared as BPL-poor is therefore linked to buying essential commodities under the Public Distribution System; wheat, rice, sugar and kerosene oil are sold at subsidised prices via the State Governments in Fair Price Shops.²⁹⁷ Various categories of ration card are issued for the purpose, based on income, geography and asset ownership, and entitle holders to differing quantities of these commodities at set prices, depending also on whether the family lives in a rural, urban or Informal Rationing Area. Applicants need to submit documents to prove

²⁹³ P. Sen, who is affiliated with the Planning Commission, explains it differently: “The procedure employed was to calculate the average calorie intake of every expenditure class, identify the lowest expenditure class which consumed the calorie norm, and use the per capita total expenditure of that class as the poverty line. Thus, the Indian poverty line captures not only the normative calorie intake, but also the expenditure on all other goods and services that were deemed necessary by households themselves in 1972-73”, *ibid*, p. 4611.

²⁹⁴ Planning Commission 2007a, Table 1.

²⁹⁵ Conversion as per mid-April, 2008.

²⁹⁶ Satterthwaite, 2007, comments how this kind of poverty line contributes to underestimations of the global extent of urban poverty.

²⁹⁷ Wheat, rice and sugar only do, of course, not suffice from a nutritional point of view.

their residence – voter’s ID-card, rent payment receipt or any other document related to residence. The public distribution of the mentioned commodities via Fair Price Shops aims at contributing to ‘affordable’ prices and enhancing food security, and is part of India’s strategy for poverty eradication. It nevertheless excludes temporary migrants, pavement dwellers,²⁹⁸ squatters and others who cannot prove residency with a document.

A fair amount of corruption is built into the BPL system, because possession of ration cards confers various benefits. Many corporators reportedly use the slum dwellers in their ward as a vote bank by promising such things as improved water facilities, and sometimes they actually employ their power and contacts to pressure for, e.g., public standposts to be re-opened by the Bangalore Water Board.²⁹⁹ It is a win-win situation: “Ensuring a BPL tag for a family means winning more votes for sure”, as an unnamed minister is quoted as having said.³⁰⁰ Meanwhile, other politicians and responsible bureaucrats show a deep suspicion of ration-card applicants, mirrored in what the Food and Civil Supplies Department in Karnataka states:

“It is the endeavour of the Government of Karnataka to identify *genuine* BPL families both in the rural areas and in urban slums (declared and undeclared) and provide them food grains at subsidized prices under the Targeted Public Distribution System. Transparent procedure and specific economic criteria would form the base for identification of genuine BPL families” (emphasis added).³⁰¹

India suffers from poverty as well as high unemployment. For some years a National Rural Employment Guarantee Scheme has operated to guarantee one able-bodied member of each family work at a wage of Rs.60 a day. However, even if this person works on all 30 days of a month, he/she earns only Rs.1,800. For a family of five, this amounts to Rs.360 per person, just above the national rural poverty line. The guarantee is only for 100 days in a year, leaving the poor to fend for themselves for the other 265 days.³⁰² In Karnataka, this scheme is now supposed to cover villages in eleven districts of the State. There is also a mid-day meal package for all children who attend government schools, which has helped increasing not only school enrolment but also actual attendance by 2-10 percent, at least in the official statistics.³⁰³

²⁹⁸ According to the Bangalore-based NGO Alternative Law Forum, p. 87, the term ‘pavement dweller’ “is used generically to describe settlements where the possibility of a permanent tenure is not possible under any circumstances. These are accessed by means of bribes to the local cops and goons as well. It is almost a form of rent being paid to these ‘owners’/actors”.

²⁹⁹ Personal communication, Water Board engineer. January 8, 2007. On public standposts, *cf.* Chapter VIII.

³⁰⁰ R. Prakash.

³⁰¹ Department of Food, Civil Supplies & Consumer Affairs, Government of Karnataka, web page ‘Implementation of Targeted Public Distribution System’.

³⁰² Guruswamy & Abraham.

³⁰³ All State Governments are directed to implement the scheme by providing every child in government and government-assisted primary schools up to the fifth standard with a cooked mid-day meal, with a minimum content of 300 calories and 8-12 g of protein each schoolday, for a

7.2 *Slum conditions*

Bangalore's slum areas are scattered over the former Corporation and municipalities with three core zones in the inner part of the city, being the major commercial and formal as well as informal employment centres. In a survey conducted in 1991, the areas ranged in size from 0.1 acres (approx. 400 m²) to 20 acres (approx. 8 hectares), with 40 to 30,000 inhabitants, and in age from recent settlements to over-100-year-old areas.³⁰⁴

Plenty of generalisations can be made regarding slums but, equally, many differences apply. Also, those living in a particular slum are far from being a homogeneous group or cohesive category. Groupings might use language, gender, age, caste, religion, political affiliation, level of education and literacy, etc., as the social glue. Hierarchies are as obvious in slums as in any other residential area or social community: the *dalits* tend to be regarded differently than OBCs (low-caste Hindus), while both these groups might be involved in riots with Muslims and *vice versa*. 'Language' refers to the fact that many slum dwellers are migrants (or second- or even third-generation descendants of migrants), predominantly from the States of Tamil Nadu and Andhra Pradesh.³⁰⁵

For an expanding metropolis, Bangalore has relatively small slum areas, and they are often held to be comparatively few in number. Most slums in Bangalore contain fewer than a couple of thousand households.³⁰⁶ 'Illegal' encroachments consisting of one or just a few shelters, primarily put up by construction *coolies*, are common. They can remain for years, expand, and be accepted (or rather ignored) by their adjacent neighbours, but without ever reaching the stage of formal recognition as a 'slum'. Eventually, if the cluster of shelters is on private land, the owner may initiate court proceedings to evacuate the families and have their dwellings demolished.

Water supply conditions differ greatly between any two slum areas, in terms of whether there is access via one or several wells or taps (public standposts) within or close to the slum, how much water these give; and whether the water is potable. The range found in the present study was wide, as were the coping strategies among the (foremost) women and the costs in time and money.

7.3 *Legal and administrative approach to slums*

It is important for planning and improvement works to know how many the urban poor are in a city such as Bangalore. For several reasons, though, it is difficult to count a slum population; even more so to estimate how many people are pavement-dwellers or live in temporary, isolated or scattered habitations.³⁰⁷ The official

minimum of 200 days per year. By comparison, a Big Mac contains about 25 g of protein. A range of problems with the mid-day meal is regularly reported, though.

³⁰⁴ Ramachandran & Sastry.

³⁰⁵ Personal communication Halebypanahalli, Dr Ambedkar and ISRO Layout slums. January 30, 2007. Cf. Connors; Dewit; Ramachandran & Sastry; Schenk 2001 a, b; Schenk & Dewit.

³⁰⁶ Schenk 2001a, p. 46.

³⁰⁷ Schenk & Dewit, p. 121, also talk of 'spontaneous slums', 'mushrooming illegal settlements'

statistics put the proportion of poor in the State of Karnataka at 32.6 percent of the urban population and 20.8 percent of the rural (the all-India averages are 25.7 and 28.3 percent, respectively).³⁰⁸ According to the 2001 census, about 30 percent of Bangalore's population was regarded as urban poor, and the number of 'slum enumeration blocks' was 733, housing 345,200 inhabitants. Official websites of various responsible authorities give notoriously different figures and the unofficial numbers are possibly even more inconsistent. One source states that 2.2 million people live in slums in Bangalore,³⁰⁹ whereas the Karnataka Slum Clearance Board refers to the 473 slums recorded (204 of which declared, notified) in 1994.³¹⁰

The observed variance is partly because the legal definition of a slum differs from the ordinary understanding. The Karnataka Slum Areas (Improvement & Clearance) Act, 1973 (hereunder: the Slum Areas Act) regulates that

“[w]here the Government is satisfied, that,-

(a) any area is or is likely to be a source of danger to health, safety or convenience of the public of that area or of its neighbourhood, by reason of the area being low-lying, insanitary, squalid, over-crowded or otherwise; or

(b) the buildings in any area, used or intended to be used for human habitation are,-

(i) in any respects, unfit for human habitation; or

(ii) by reason of dilapidation, over crowding, faulty arrangement and design of such buildings, narrowness or faulty arrangement of streets, lack of ventilation, light or sanitation facilities, or any combination of these factors, detrimental to safety, health or morals, *it may, by notification, declare such area to be a slum area*” (*sic*, emphasis added) (Sec 3(1)).

These criteria for 'declaring' a slum can be compared with two other definitions. The first is used by UN-HABITAT, according to which a slum is

“a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is often not recognized and addressed by the public authorities as an integral part of the city”.³¹¹

The second is from the World Bank's Glossary, in which a slum is

“a heavily populated urban area characterized by substandard housing and squalor”.³¹²

and non-tolerated encroachments.

³⁰⁸ Planning Commission 2007a.

³⁰⁹ Anonymous 2007h, referring to a non-located study by *Supriya Roy Chowdhury* of the Institute of Socio-Economic Change in Bangalore. Considering that in Ramachandran & Sastry's detailed study in 1990-1991 the slum population was approximately 1.12 million (about 20 percent of the Bangalore Urban Agglomeration), this is not entirely unlikely. Ramachandran & Sastry, p. 52.

³¹⁰ Karnataka Slum Clearance Board web page 'Constitution of the Board', according to which the facts are from a survey of 1994. A few additional slums have been declared since, but the exact number is unknown.

³¹¹ UN-HABITAT 2003.

Though there are at least three different authorities involved in slum issues in Bangalore, the one with the main responsibility is the State Slum Clearance Board.³¹³ It is empowered to take decisions and action with regard to declared slums only. This applies to, among other things, improvement works – upgrading and betterment of basic amenities such as drinking water, community washrooms, latrines, drains and storm-water drains, street lights and roads (Sec 6-7, read together with Sec 2) – which explains why it can be favourable to live in an officially recognised slum. It is, however, very difficult to interpret the provisions on improvements as *rights* or *entitlements* enacted on behalf of slum-area residents.

In *Geneviève Connors'* study of Bangalore, the slum declaration is pinpointed as being

“extremely bureaucratic, rife with corruption, and completely disconnected from both the needs of slum dwellers and the realities on the ground. It is also alarmingly ambiguous. On the one hand, declared status is coveted by slum dwellers because declared slums are entitled to certain benefits, including potential land rights. On the other hand, it is feared because certain grades of declaration can actually result in eviction as opposed to an improvement in security over tenure”.³¹⁴

The general approach to slum areas is, from what can be read out from the Slum Areas Act, as lucid as the name of the Board suggests: clearance rather than improvement is the main objective. Slums are seen as a source of danger to public health and sanitation and it is perceived as necessary to ‘curb the tendency to put up new slums’. Prohibition of unauthorised construction of buildings is prescribed, buildings that are unlawfully started should preferably be demolished and action should be taken against middlemen who encourage unlawful construction.³¹⁵ Even slums of long standing are regularly demolished and shifted, mainly because land value in the city is increasing so rapidly. The inhabitants are re-settled to unknown and far-away places, often after a long period of insecurity and rumours. The slum is often offered a choice of proposed new areas to which to shift, but the choice for the slum-dwellers as a collective means that certain interests will inevitably be voiced louder than others.³¹⁶ Again, the inhabitants of a certain slum area seldom constitute one homogenous group.

One objective of the Slum Clearance Board is “to enable slum dwellers to live in hygienic conditions *by providing* basic amenities, such as drinking water... wherever possible” (emphasis added).³¹⁷ Programmes and schemes set up to improve and develop the declared slum areas (so-called upgrading) are implemented through the Board, and normally financed either by the Centre Government (occasionally by

³¹² World Bank web page ‘You think Glossary’.

³¹³ The other two are the Bangalore Development Authority and the Greater Bangalore Corporation (BBMP).

³¹⁴ Connors 2007, p. 86.

³¹⁵ Amending Act 19 of 1981 to the Slum Clearance Act.

³¹⁶ Personal communication, Social Development Unit officer, Water Board. December 15, 2006.

³¹⁷ Slum Clearance Board, Annual Report 2004-2005, p. 3.

the Karnataka State Government) or by loan or development aid schemes. The World Bank, the Asian Development Bank, and Australian AusAID are the most important actors in the case of Bangalore. As *Hans Schenk* and many others have shown, though, the Slum Clearance Board's upgrading is "a policy which is so utterly insignificant for the majority of slum dwellers in Bangalore" because they simply cannot afford the rents being charged afterwards,³¹⁸ and it is futile to argue whether improvements have been relevant: "not much has been done after all".³¹⁹

No NGO representatives I spoke with for this study expressed any faith in the Slum Clearance Board; neither did Board staff make me believe in its capacity or interest in working *for* the urban poor of Bangalore.³²⁰ Schenk has described the circumstances of Bangalore as somewhat special in comparison to other major Indian cities, notable being "the negative attitude and the stubborn refusal of state and local authorities to recognize 'slums' as entities in the city's urban socio-spatial structure".³²¹ Schenk *et al.* also point to the "widespread reluctance among government officers [of the Slum Clearance Board] to use the state machinery to support... outsiders", especially if these are from Tamil Nadu.³²²

Not all the problems of slums being kept poor are, however, due to the institutional failures of the Slum Clearance Board as such, or to the law regulating its function. The factor of vote banks and public standposts was mentioned above. In the absence of the traditional (rural) conditions of patron-client relations between landlords and weaker dependents, politicians become patrons of slum dwellers. Schenk here writes that

"[s]carcity is a precious element, especially for those who can command, and hence, manipulate it. It is, therefore, not surprising that *patrons command scarcity and use it as a weapon* in exercising patron-client relations.

Too large a distribution of public resources to slum dwellers (to which they are entitled considering the many redistributive government schemes), might have threatening effect on the grip that a politician might hold, and wants to hold over a slum votebank. Hence there should be a substantial amount of secrecy regarding government intentions, in order to allow politicians to '*transform*' rights into benevolent and special favours for designated groups (of clients)" (emphasis added).³²³

This aspect is, of course, closely related to the element of corruption among politicians, officers of such authorities as the Slum Clearance Board, and implementing officers – all of whom are economically dependent on the poor being kept dependent.³²⁴

³¹⁸ Schenk 2001b, p. 266, with references.

³¹⁹ *Ibid*, p. 272.

³²⁰ Personal communication, Slum Clearance Board (various officers). January 29, 2007.

³²¹ Schenk 2001a, p. 46.

³²² Schenk 2001b, p. 272.

³²³ Schenk 2001b, pp. 273f.

³²⁴ *Cf.* Schenk 2001b, p. 274.

The number of areas declared under the Karnataka Slum Areas Act, just as under equivalent acts in other States, is in no sense on a par with the actual number of slums and other ‘inadequate’ and ‘substandard’ settlements. This circumstance has grossly distorted the statistics over the decades. Against this, it is easier to understand the revolution the 2001 census brought about, being the first to collect data about slums of India. This is even more so as the definition of a ‘slum area’ is wide, encompassing all areas that are notified by the State Government *under applicable legislation*, areas that are furthermore *recognised as ‘slums’*, and “compact areas of at least 300 population or about 60-70 households in poorly-built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities” (*sic*).³²⁵ Clearly, smaller slum areas or clusters of tents and huts are not captured until they have reached a certain size and, probably, establishment – meaning that temporary settlements are not taken into account. With this reform, the opportunities for slum dwellers to be acknowledged and included in government policies and planning efforts are, nevertheless, developing one step for the better.

7.4 Figures of poverty in Bangalore

Another question of importance for the issue of access to water is the income possibilities, purchasing power, and costs for basic needs. The minimum wage for domestic work as fixed by the Government of Karnataka is Rs.1,600 per month.³²⁶ In the city of Bangalore and its wealthy suburbs, these salaries can be twice as high because of high demand, but the normal daily income is about Rs.53. However, many women do housekeeping on a day-to-day basis wherever they can find work and are thus not permanently employed. This typically reduces the monthly income to some Rs.1,000-1,500 only.

The majority of the men, but also some women, are *coolies* doing manual work, often being day-wage labourers. This normally means a very insecure job market, often within the construction business, and on a short-term basis. A small portion of the urban poor does some kind of *artisan* work – as painters, carpenters, etc. Yet others sell vegetables and fruits, buckets and pots, and other domestic items from mobile wagons. A group of men that is comparatively better off is the *auto rikshaw* drivers and private chauffeurs.

In comparison, the sweepers and scavengers not only have the dirtiest and least prestigious of jobs, they furthermore seldom work on contract and are mostly paid less than the minimum wage of Rs.70-80 per day. For manual road sweeping, a job which is often done by old women, the wages have been fixed at Rs.1,800 per month. Reportedly, few of the sweepers receive the whole of their salary because the business is controlled by middlemen. These tasks were traditionally only per-

³²⁵ Census 2001, web page ‘Introduction: Definition of slums’.

³²⁶ According to Chamaraj, 2006a, this is set by State-level Minimum Wages Advisory Boards on a sector-by-sector and case-by-case basis. There are both norms from the 15th Indian Labour Conference in 1957 and Supreme Court decisions on the minimum wage, but “to no avail”.

formed by the *dalits*, because of their untouchable status, but the jobs can nowadays also be applied for by others. A task that is still mainly carried out by a certain community is washing and ironing; the *dhobis* have somewhat of a monopoly in this field and the job is thus inherited. The Muslims among the urban poor are more often than others self-employed, e.g., running small shops and stalls, but it has been shown that this group is generally found in the really low income brackets.

Both individuals and NGOs point out that the government-fixed minimum wages are inadequate to cover the costs of food and housing, medical expenses and educational needs, etc., not to mention water. In addition, even the minimum wages are not always paid. To this is added, of course, the large group of people who earn money in the informal sector, for instance as sex workers, or who are not able to work. Incomes among the latter are often confined to what can be begged.

A survey in Bangalore in June 2005 by *Geeta Menon* of *Stree Jagruti Samiti* (which organises domestic workers) found the following average expenditure per month for a domestic worker's family living in a slum:

Table 2: Monthly expenditures for domestic worker's family

Expenditure	Rs.
Food	1,959 (65 per day)
School fees	1,221
Repayment of loans	817
Rent	555
Health care	293
Electricity	279
Transport	185
Water	54
Miscellaneous expenditure	62
Total	5,189 (ca. 173 per day)

From Chamaraj 2006a.

This means that in a household of (usually) six people, where the woman is employed as a domestic worker and earning only the minimum wage, it is essential that there be at least two more breadwinners. On top of the woman's salary of Rs.1,600, the average family needs at least Rs.3,600 to cover these basic needs. Apart from loans for education and health costs, the *Stree Jagruti Samitibi* "can only assume that this shortfall between expenditure and family income is made up through child labour, prostitution and criminal activity".³²⁷

In the survey, the expenditure on food was the highest item, and yet we can assume that poor people often do not eat more than two meals a day, or less in the case of absolute poverty. Water was the smallest item, and it is nevertheless a heavy burden on the total monthly budget. From the interviews made for the present

³²⁷ Chamaraj 2006a.

study, it seems that slum dwellers often pay Rs.1-3 per pot and buy at least two per day for the household, giving some 25 litres to share and a monthly cost of between Rs.60 and 180. As we will see in the final chapter, a household connected to the Bangalore Water Board can consume 8,000 litres of treated freshwater in a month, and pay Rs.48 only, or get up to 25,000 litres for Rs.201 (plus Rs.15 for sanitary charges in both cases), and so on according to the costs of each slab.

7.5 Summing up

The conditions of poverty are by no means less grave in Bangalore than in other cities in the developing world. Due to the ever-increasing economic boom, with its ensuing residential and commercial construction mushrooming in each plot that developers can get their hands on, the poor are shoved away. Attempts to eradicate all traces of poverty and slum from the former garden city are, however, futile. Despite the demolition of long-established settlements and relocation of the inhabitants to the outskirts of the city, new migrants will find empty spaces and choose the urban environment as long as their labour is needed. The development of a city in terms of planning for infrastructure and natural resources must include all its inhabitants.

8 Concluding remarks

Bangalore was self-sufficient in terms of water supply only till around the second half of the nineteenth century, when increased growth and demand forced the authorities to begin bringing in water from tanks. At that time the city was still very small compared to today, but it became dependent on the supporting hinterland nevertheless. Building an infrastructure network – including reservoirs, pipes, water towers, pumps and individual connections – was a service that the State provided to the citizens. The operation and maintenance of the same has since been an important task for the public utilities, not least to protect citizens' health and to provide for an improved standard of living. This depends, though, on water being pumped from a river some 100 km away. With a lowered limit on the extraction allowed, at the same time as water use is rapidly growing, the challenges are piling up.

The Water Board has estimated a demand–supply deficit of at least 250 MLD. Most of this is met by the water users themselves via groundwater exploitation, in the Bangalore area itself but also in the hinterland. Although methods for calculating the size of the groundwater resources in relation to aquifer recharge should possibly be upgraded, it is clear that the region faces an increasingly difficult situation, with less water being available both per capita and in absolute terms.

Part 2

Chapter IV

Rights-talk

1 Introduction

– Is there a ‘human right’ to water? This question is at the heart of the problem, Gleick contended in May 2007.³²⁸ Despite long experience working with the issue, he still perceived the question as relevant. To discuss this topic, we need to begin by taking one step back. The objective of this chapter is therefore to initiate the discussion from the question; *What do we mean by expressing access to water as a ‘right’?* The account starts with purely theoretical notions of rights and the concept of law, and ends with analyses of concrete cases decided by the Supreme Court of India.

Law is always culture-specific. There are features of the Indian legal system that would allow us to describe it as *sui generis* – of its own kind – in the sense that the system is a mix of English common law; ancient and/or indigenous notions and customs, more recent imports from the U.S., constitutional rights and statutory law. The character of this system governs how the concept of rights is understood and applied, primarily through the courts. The role of the judiciary and the discretion of judges in making law are fundamental aspects in this regard. This becomes clear when observing that the Supreme Court of India has essentially been responsible for the country’s entire development in the field of water and rights.

Due to former colonisation as well as today’s globalisation, much of traditional jurisprudence remains relevant also in the Indian rights-discourse. We find, for instance, the *Hobfeldian* analysis of rights as consisting of a set of jural correlatives and

³²⁸ Gleick 2007, p. 1.

opposites to be highly relevant. The two classical schools within which the concept of law is understood – natural law and legal positivism – are applicable, but complemented by values and principles based on the specific Indian culture.

This section offers a basis for discussing the difference between ‘valid’ legal rights, natural rights and human rights, and to what extent the Indian jurisprudence and judiciary (can) take morals and other values into consideration. The concept of *judicial activism* is also relevant in this regard, in how this involves a wider interpretation of the posited law for the benefit of promoting human rights.

Rather than being based essentially on natural law values, the Indian legal system has a fairly strong religious, or spiritual, foundation. Literature published during the past ten years indicates a new, general interest in coupling values and religious concepts to ecology and nature preservation.³²⁹ The specific linkage between water management and religion is yet to be explored further, but a foundation has recently been laid.³³⁰ It has been alleged that unless we understand how (religious) values have affected cultural views on the environment we fail at meaningful environmental discourse, and will not be able to design successful regulatory models of water laws.³³¹ These issues deserve deeper study than can be given here; but an outline will be provided, based mainly on what contemporary scholars have written.

This Chapter will lay a foundation for analysing the specific discourse on (safe drinking) water as a human right, and for meeting the general criticism of this idea in the next chapter.

2 The language of rights³³²

2.1 *Soft and hard ‘law’ and the moral question*

The language of rights takes off from the question: *What are ‘rights’?* What constitutes rights, how are they constructed? What sort of assertion is it to say that ‘X has a right to *r*’, and what criteria would have to be satisfied for this proposition to be true? The word connotes a notion that is an essential building block of law and the legal discipline, but ‘rights’ are also discussed in the fields of philosophy, political science, economy, anthropology, sociology, etc.

There is no single idea on how the notion is to be understood and it often comes with a prefix, so that a *legal* right denotes a different category than a *moral* one, although they might coincide in the same substantial claim. *Jack Donnelly* thus distinguishes between the two central moral and political senses of the word right:

³²⁹ Cf. ‘Hinduism and Ecology: The Intersection of Earth, Sky, and Water’, by *C.K. Chapple & M.E. Tucker* (eds.); *D. Gosling’s* ‘Religion and Ecology in India and South East Asia’; and *R.S. Gottlieb’s* ‘The Oxford Handbook of Religion and Ecology’.

³³⁰ ‘World Religions and Clean Water Laws’ by *D. Fisher-Ogden & S.R. Saxer*.

³³¹ *Ibid.*, pp. 68f.

³³² The following text refers to *rights* as well as to *law*. Both concepts have their (contested) definitions: in short, they refer to claims and liberties, and rules of conduct, respectively.

- rectitude, in the meaning of righteousness; the right thing to do; or something *being* right (or wrong); and
- entitlements and claims, in the meaning someone *having* a right.

Both meanings of the word “link ‘right’ and obligation, but in systematically different ways”: whereas rectitude focuses on a standard of conduct, rights-claims focus on the right-holder. They thus emphasise the duty-bearer’s obligation under the standard of conduct, and the right-holder’s title to enjoy her right, respectively.³³³

In the talk of rights, much of our understanding relates also to the notion of justice (*jus*, or *ius* in Roman law). However, there are semantic differences between different (national) legal systems’ use of the terms. *H.L.A. Hart* observed that this results in certain notions becoming impossible to translate and be given the proper meaning in English:

“The words ‘*droit*’, ‘*diritto*’, and ‘*Recht*’, used by continental jurists, have no simple English translation and seem to English jurists to hover uncertainly between law and morals, but they do in fact mark off an area of morality (the morality of law) which has special characteristics. It is occupied by the concepts of justice, fairness, rights, and obligation”.³³⁴

A legal right can be (more or less expressly) based on a supporting moral justification.³³⁵ Inversely, it is a matter of debate whether certain fundamental and morally justified rights ‘exist’ irrespective of any support in law. Human rights are the archetype of this concern.³³⁶ If one takes the view that there is a human right to water regardless of it being embodied in any law, this can be seen as founded on morals and ethical values. On the other hand, it can be argued that there might or might not be such a *moral* right, but only if it is regulated does it exist in the *legal* system. The latter view excludes there being a (strong) connection between law and morals, and this is the predominant view in much of the Western world today.

Internationally, this strictly legal perspective becomes clear when we compare two areas that are characterised as ‘hard law’ with one that is not. So-called non-navigational uses of water are regulated in a UN treaty.³³⁷ There is also the UNECE Water Convention (the so-called Helsinki Convention) with its Protocol on Water and Health (the London Protocol).³³⁸ Though the former is to be ratified by 35

³³³ Donnelly, p. 7, with reference to Dworkin 1977, pp. 188ff.

³³⁴ Hart 1955, pp. 177f. In Swedish, the word used is ‘*rätt*’.

³³⁵ I adopt a definition of ‘the morality of duty’ rather than that of ‘aspiration’. The former “starts at the bottom and lays down the basic rules without which an ordered society is impossible, or without which an ordered society directed towards certain specific goals must fail of its mark”, Fuller, pp. 5f.

³³⁶ Cf. Hart 1961, Ch IX; Cruft, p. 348.

³³⁷ The UN Convention on the Law of the Non-navigational Uses of International Watercourses, adopted by the UN General Assembly by resolution A/RES/51/229 in May 1997.

³³⁸ The Convention on the Protection and Use of Transboundary Watercourses and International Lakes, adopted in 1992 by the UN Economic Commission for Europe, in force since October 1996, and the Protocol on Water and Health of 1999, in force since August 2005.

States parties or regional economic integration organisations before it becomes binding, it can already be argued that it serves to codify the parties' intentions. The Helsinki Convention and London Protocol apply to Europe only. Yet, both are fully acknowledged. On the contrary, the right to access to water for drinking is still termed 'soft law' by many, because it is *not explicitly enumerated* as a right in any general human-rights treaty.³³⁹ Undoubtedly, this right has strong *moral* support, but is not considered a 'right' in the strict legal-positivist sense as long as it is only contained in various resolutions, principles and guidelines that lack binding force. The question is subject to debate, as we will see.

2.2 Defining rights

2.2.1 Rights as relations: Hohfeld's analysis

Two³⁴⁰ main theories seek to explain the nature and function of a right: by describing it as a *will* or an *interest*. This is to be treated further below but in short, the 'will' is often expressed as a 'choice'; the right-holder is in control of the right and chooses if and when to claim it. She/he can decide to waive the right if that is preferable. In contrast, those seeing rights as reflecting 'interests' link the benefit of the right-holder to the justification of the duty-bearer's obligation.³⁴¹

Proponents of both theories also define rights in terms of duties, holding that rights correlate to duties. This in turn makes for a most fundamental understanding of rights as *relational*. This can appear as 'two sides of the same coin': to possess a right is to be the beneficiary of another's duty, and *vice versa*. This remains the most referred-to point of departure for talking about rights in a legal and philosophical way.³⁴² As *John Austin* wrote, "[e]very right... rests on a relative duty... lying on a party or parties other than the party or parties in whom the right rests".³⁴³ Better known, though, is *Wesley Hohfeld's* analytical system of legal rights, which is based on four distinct but related terms, or 'elements'. These are often used interchangeably but are different conceptually. I perceive the dichotomy of rights and obligations (duties) as fundamental in the attainment of improved access to water, so this

³³⁹ The right is expressly regulated in the Convention on the Elimination of All Forms of Discrimination Against Women; the Convention on the Rights of the Child; and a few other binding treaties – but these have narrow applicability. Cf. UNHCHR Annual Report, pp. 5, 21.

³⁴⁰ Freeman & Lloyd, p. 353, note 73, mention a third type of view that relates rights to power. This was advocated by Hobbes and others during the seventeenth century and later by positivists such as Austin. According to Freeman & Lloyd, a variant was the realist movement's view that rights are expectations.

³⁴¹ However, as Cruft, pp. 347, 349, has pointed out, neither the will theory nor the interest theory reflects all the ways in which the term 'right' is actually used in contemporary public political and ethical debate.

³⁴² Hohfeld 1913 and 1917; cf. Benn; Cruft; Finnis; Freeman; Hart; Munzer; Penner; Rainbolt; Wenar.

³⁴³ Austin, footnote p. 285, cited in Benn. For Bentham and Austin, a duty exists only where the law imposes (and enforces) a sanction for a breach of it.

system and its implications will be given quite some attention in the following analysis.

Hohfeld observed that one is said to have a legal right under any one of four legal conditions. I hence have a right

1. if I am legally permitted to behave in a certain way (in which case I have a legal liberty);
2. in some cases, if some other person is legally required to behave in a certain way (in which case I have a legal claim-right);
3. if I am legally empowered to effect a change in someone's legal condition (in which case I have a legal power or capacity);
4. if some person lacks the legal power or capacity to change my legal condition (in which case I have a legal immunity).

Hohfeld is also credited as being the one behind the idea of a strong correlative thesis.³⁴⁴ This is presented in a logical form, where X is a right-holder and Y a duty-bearer:

X has a claim that Y φ (*pbi*) if and only if Y has a duty to X to φ .³⁴⁵

A right can further be analysed as consisting of 'elements': claim (or demand-right); privilege (or liberty); power; and immunity, all of which can be rights in themselves. Hohfeld arranged the fundamental legal conceptions in 'jural opposites' and 'jural correlatives' thus:³⁴⁶

Opposites:

If X has a claim then X lacks a no-claim.

- | | | | |
|----|-----------|----|-------------|
| "- | privilege | "- | duty. |
| "- | power | "- | disability. |
| "- | immunity | "- | liability. |

Correlatives:

If X has a claim then some person Y has a duty.

- | | | | |
|----|-----------|----|-------------|
| "- | privilege | "- | no-claim. |
| "- | power | "- | liability. |
| "- | immunity | "- | disability. |

³⁴⁴ Penner 1997, p. 300.

³⁴⁵ 1. X has a claim-right that Y φ , if and only if Y has a duty to X to φ .

2. X has a liberty/privilege to φ , if and only if X has no duty not to φ .

3. X has a power (relative to Y) to φ , if and only if X has the ability within a set of rules to alter her own or another's Hohfeldian incidents (Y has a liability to have his legal position changed by X's φ -doing).

4. Y has an immunity (relative to X's φ -doing), if and only if X lacks the ability within a set of rules to alter Y's Hohfeldian incidents (position).

Hohfeld used *A* instead of *X* and *B* instead of *Y*, changed here for the sake of consistency. Supplements within brackets added by Finnis 1980, p. 199.

³⁴⁶ Hohfeld 1923, p. 36.

In other words, X's right against Y is meaningless unless Y has a corresponding duty to honour X's right. When no duty rests on Y, it means that Y has a privilege/liberty and can do whatever he or she pleases, and X has no right to prohibit Y from doing so. Hohfeld also held that a right applies only to a human relationship, not to a thing (right *in rem*).

It follows from this correlative thesis that rights in, for instance, *property* apply in relation to other people's rights, duties, privileges, and so on. The relations are often referred to as a complex *bundle of rights*, although obligations etc. are included.

Hohfeld's system pioneered the analytical understanding of various rights–duties relations. Many scholars have taken it as the basis for furthering the interpretation of what rights are, and what functions they have. *Stanley I. Benn* has pointed out that Hohfeld's 'correlative' relations are, in fact, 'identities': "a right (claim) is a duty looked at from the standpoint of the other term in the same relationship [but] this does not imply that to every duty there necessarily corresponds a right".³⁴⁷ Benn also holds that though Hohfeld's scheme exhausted all the fundamental types of rights, there are some that do not fit in comfortably. For instance, what kind of a duty, liability, no-right, or disability would correspond to the 'right to vote'?³⁴⁸ If we answer Benn's question by pointing to constitutional provisions regarding suffrage, which oblige the democratic state to let citizens above 18 or some other age exercise their franchise, we see that each nation-state has regulated this slightly differently. The conclusion is that suffrage is a construction; the right is instituted by a legislator, and it can be – and has in many instances been – altered so that, e.g., women are allowed the right to vote. According to Benn, Hohfeld insisted on the difference between natural rights and legal relations, and considering that Hohfeld expressly treated 'legal' rights in his texts, we can assume that his analytic scheme applies to positive rights only.³⁴⁹

Others have shown how all Hohfeldian relations have three parts: two agents and one content. For example, in the sentence 'Madeline has a claim with respect to Geoff that Geoff should not drive Madeline's truck', Madeline and Geoff are the agents and 'that Geoff should not drive Madeline's truck' is the content.³⁵⁰ However, not all claim-rights are caused by voluntary actions such as signing a contract, and not all claim-rights correspond to duties in just one agent. For instance, a child has a claim-right correlating to a duty in every other person not to abuse her or him. In regard to both the child and to Geoff and Madeleine, we see how a claim-right can require duty-bearers to *refrain* from performing some action; φ can thus be a negative verb.³⁵¹

Hohfeld's system is highly relevant for our thinking about water as a right (claim, etc.) that corresponds to obligations, and will return throughout the book.

³⁴⁷ Benn, p. 196.

³⁴⁸ *Ibid*, pp. 196f.

³⁴⁹ *Ibid*, p. 197; Hohfeld 1913, 1917.

³⁵⁰ Rainbolt, p. 11.

³⁵¹ Wenar 2007.

2.2.2 No right without remedy

According to a legal maxim, *for every right, there is a remedy*. In relation to English law, *William Blackstone* said that “every right when withheld must have a remedy”; an injury such as refusal or neglect of justice can be remedied by a writ of mandamus.³⁵² As an idea, this complements Hohfeld’s system: the right-holder should be able to rely on another person or agent to fulfil the duty of remedying every withheld right. The maxim can also be read contrariwise: a ‘proper’ right is combined with a remedy from the outset, or a remedy is later pronounced as a means to ‘get right’. Some therefore argue that a right is legally valid and has a value in its own only in so far as it may be reliably enforced.

In practice the maxim is realised via the legislator who provides appropriate remedies in the law (as specified in the constitution, procedural law, criminal law, civil law and so on) and the executer who administers the repayment, repair, etc. According to the rule of law, the enforcement should be provided through the courts. A closely related and basic question is the right of every citizen to address an independent court; one which has the autonomy and power to take up cases referred to it and make decisions without considerations of politics or other vested interests.

2.2.3 Rights as will

Generally stated, will-theorists maintain that there can be no such thing as an unwaivable right, i.e., one which the right-holder can refrain from enforcing or exercising. There are various interpretations of the will-theory and, for instance, the element of ‘holding’ a right is taken rather literally by Hart, the father of the theory. According to him, X and Y are related by an obligatory bond but not bound as by a chain; Y is bound whereas the other end of the chain lies in X’s hand “to use if he chooses”.³⁵³

The will/choice is essentially concerned with the liberty of the individual. Rights render the holder control and power over others in their roles as duty-bearers.³⁵⁴ *Carl Wellman* asserts that if there is one central thesis which is common to *all* will theories, it is that a right confers some special status upon the will of the right-holder, but not necessarily an element of ‘option’. *Rowan Cruft* summarises the discourse by saying that “a right essentially gives effect to or protects the right-holder’s freedom of will with respect to a particular issue”.³⁵⁵ It is entirely within the individual’s choice whether to claim, enforce, waive, etc., his/her rights. The authority of the right-holder to determine how others should act has by Hart been

³⁵² Blackstone, *Commentaries on the Laws of England* (hereafter: *Bl Comm*) Book III, Ch 7, p. 109. A writ is a command, a court order, issued to a subordinate court, an officer of government, a corporation or any other institution for the performance of certain acts or duties.

³⁵³ Hart 1955, p. 181.

³⁵⁴ Wenar 2005.

³⁵⁵ Cruft, p. 367.

expressed as small-scale sovereignty.³⁵⁶ But Cruft makes the observation that, according to this theory, “relational duties can only be genuinely *owed* to people who hold powers to waive or enforce these duties”, and thus, “only if accompanied by powers of waiver-or-enforcement would one’s power, immunity or liability *protect one’s choices*” (emphasis in original).³⁵⁷ J.E. Penner writes that waivable rights are waivable because it is in the interest of the right-holder that they should be, and *vice versa*.³⁵⁸

To Hart, it was important to emphasise that there could well be rights corresponding to so-called no-duties, but being capable of benefiting from the performance of a duty could not be a sufficient condition for *having* a right. X might ‘have’ a right *r* in the meaning that X is entitled to claim its fulfilment by Y, and is in a position to waive it – and even to release the duty-bearer from the burden of securing *r*. What X has in relation to Y is to be understood as a right.³⁵⁹ However, there might also be a *third party* Z whose interest is promoted by X’s right over Y – a beneficiary. Hart hence held that

“while the person who *stands to benefit* by the performance of a duty is discovered by considering what will happen if the duty is not performed, the person who *has a right* (to whom performance is owed or due) is discovered by examining the transaction or antecedent situation or relations of the parties out of which the ‘duty’ arises” (emphasis added).³⁶⁰

The third party is no right-holder by virtue of having an interest in a right. Hart therefore drew a much-criticised conclusion: although there might be a (moral) duty to treat animals and babies well, they are not to be extended ‘rights’ to proper treatment. We should rather just say that “it is *wrong* to *ill-treat* them”, as a consequence of a general sense of a moral duty to do so (emphasis added).³⁶¹

When we examine this and the above features of the will/choice theory we realise that it is of little use to understand the nature of *certain* kinds of right. Will-rights function well to explain the nature of a relationship between private subjects in instances of property rights.³⁶² We can picture a bond established under a valid contract, according to which Y, a landowner, has undertaken to deliver /ground/water to X on a regular basis, in exchange for a settled remuneration. Both X and Y can be individuals, groups of individuals, or juridical persons. (For now, we ignore the rules of property and the administrative, environmental, etc., provisions that govern the situation, some of which are highly disputed. We will also not consider whether the water supplied is for drinking or other household purposes, irrigation, for industrial use, or other.) The question is: Is it possible to ‘hold’ a right in water? The

³⁵⁶ Hart 1982, p. 183.

³⁵⁷ Cruft, pp. 367f.

³⁵⁸ Penner 1997, p. 302.

³⁵⁹ Hart 1955, pp. 179f.

³⁶⁰ Hart 1955, p. 181.

³⁶¹ *Ibid.*

³⁶² Cf. Simmonds, pp. 2f.

answer could be yes, *if* the consumer/right-holder is in such a position of power that he or she can choose when to turn the tap on and off; when and where delivery is to take place; when to end the contractual relationship, and so on. In other words: X's will determines whether he/she claims the right to water, or refrains from doing so. Y is duty-bound to deliver the goods (the water) and should Y fail to do so, X is (ordinarily) entitled to remedy.

The problems with applying the theory manifest themselves if the relationship between X and Y does not have a relatively equal foundation, such as when X has (too) little purchasing power to *become* (or remain) a right-holder/consumer. In line with the theory, X and Y cannot even enter into a contractual or other relationship. If we speak of a 'thing' so fundamentally necessary for survival as water, we could possibly imagine that it is arranged so that Y agrees to deliver the water for free, or heavily subsidised. If we still discuss an agreement between private subjects, such contractual conditions entail no objections; X is a valid right-holder and can demand of Y, the duty-bearer, that he fulfil the obligation to supply water.

However, if we as X imagine the unserved and non-connected one billion people lacking access to safe water and living under conditions of scarcity – will the exercise of the agreed-upon right be a matter of choice, and of “actively being in charge of the relationship”³⁶³ to Y? As rights are supposed to “work not simply by being voluntarily respected by duty-bearers but, most important, by being exercised by right-holders”,³⁶⁴ it seems as if X themselves might have to put their rights into practice; demand their supply of water from Y. The remedy at hand, to ultimately enforce compliance, is mainly via court action – an often very costly and protracted way of getting justice done.

Now, if we put 'the state' in the place of Y – a situation that conforms better to reality in the case of water provision – does that change the situation? What binds Y to X is then possibly a 'social contract' and/or some version of a welfare state, but, with less than a *legal* relationship being established, how can the state be 'held' responsible as a duty-bearer? In other words, is it feasible for citizens to become “small-scale sovereigns”, as Hart explained the relationship? The answer is negative, and the citizens of democratic countries are referred to voting in general elections, again a very slow process and one with no guaranteed outcome.

To me it seems clear that safe drinking water can only by way of exception be seen as a right over which X has power and control and can exercise a choice whether to waive or not. We need to explain both the right and the duty differently.

Criticism of the will/choice theory of rights has also sprung up in several other respects. In general, rights-as-will would inevitably involve procedural problems for all those not in a position to effectively assert them. The child, mentally disadvantaged, illiterate or other person with limited capacity would all encounter difficulties in deciding whether to claim their substantive rights, and subsequently to carry out the claim. Rights are also not so much at the will of the holder where there is no

³⁶³ Donnelly, p. 8.

³⁶⁴ *Ibid*, p. 210.

identified addressee to secure them. The criticism has also been formulated with the argument that “the duties which correlate with rights are only contingently related to the capacity of anyone else to demand or waive the performance of the duty. Thus my *right to life* may, but need not, entail that *I may* release you from your standing *duty not to kill me*” (emphasis added).³⁶⁵

2.2.4 Rights justified by interest

The understanding of rights as based on, or linked to, power and will seems to be the most prevalent among scholars. However, a theory which is more appealing here explains the function of rights as being to further the holders’ interests, generally seen. Again, several versions of this theory exist.³⁶⁶ For instance, *Tom Campbell* and others with him hold that X can have a right – in moral theory *or* in a legal system – and the protection or advancement of his/her interest is recognised as a reason for imposing obligations on a duty-bearer.³⁶⁷ The right as such can thus also exist whether or not it is actually imposed, and regardless of whether the addressee is known.

John Finnis, who bases much of his ideas on *Thomas Aquinas*, holds that the modern vocabulary on rights takes “*the point of view of person(s) who benefit(s) from that relationship*” (emphasis added).³⁶⁸ In other words, there is a special angle from which to talk about ‘what is just’: that of the ‘other(s)’ to whom something is owed or due, and who would be wronged if denied that something. The benefits and interests of such person(s) precede the duties. Similarly, *Joseph Raz*, one of the foremost persons of the interest theory, has offered a definition. Accordingly,

“X has a right if and only if X can have rights, *and*, other things being equal, an aspect of X’s well-being (his interest) is a *sufficient reason* for holding some other person(s) to be under a duty” (emphasis added).³⁶⁹

Raz adds as a principle that an individual is *capable* of possessing (having) rights if and only if his well-being is of ultimate value (or if, alternatively, we are speaking of an ‘artificial person’, e.g., a corporation). Raz also notes that though ‘a right’ is a very general term, one rarely asserts a certain right without simultaneously specifying what the right consists of. In addition, detailed explanations of rights are in part linguistic explanations – a right *in* a car differs from a right *to* a car – but they depend partly on political, legal or moral arguments, which might include a discussion on how far certain fundamental rights take us. The definition Raz offers aims to be neutral concerning such detailed questions.³⁷⁰

³⁶⁵ T. Campbell 1985, p. 11.

³⁶⁶ According to the older version of the theory, proposed by Austin, Bentham and Jhering, X has a right when she/he is the (intended) beneficiary of another’s duty.

³⁶⁷ T. Campbell.

³⁶⁸ Finnis 1980, p. 205.

³⁶⁹ Raz 1984, p. 195, holding that this definition draws elements from Bentham, Dworkin, MacCormick and *Kenneth Campbell*.

³⁷⁰ Cf. Raz 1986, p. 167.

Inversely, if an individual has a right, then a certain aspect of his/her well-being is a reason for holding others to be under a duty.³⁷¹ Rights are (nothing but) *grounds* of duties in others, and in every right there is a correlative duty, or duties (though not all duties are grounded on rights). Similarly, *Neil MacCormick* sees legal rights as reasons for imposing duties, rather than simply being correlatives of the duties.³⁷² MacCormick also criticises Hart by contending that were the will-theory of rights correct, then an inalienable right could not be a ‘right’ (if by inalienable we mean that the right-holder has no control). Hence, the will/choice theorist would be unable to accept that many fundamental human rights are ‘rights’ at all.³⁷³

From the above definition we realise that both Raz and MacCormick defy the Hohfeldian axiom of every duty corresponding to a right, but that they maintain how the opposite is true: to every right there is a duty. Many duties fall short of securing their object, though. A right should (therefore) not be understood as there *being* a duty ‘from another’, only that there is a *ground* for *justifying* another’s duty, where there are no conflicting considerations of greater weight.³⁷⁴ The holding that another has a duty might be due to certain facts peculiar to the parties involved, or generally to society. Many duties are negative; duties *not to* expose the right-holder to something.³⁷⁵ In general, Raz speaks of liberties but also of the limits to obligations to act to promote certain interests. Rights may be held against certain persons and not others, but some are held against the world at large. Likewise, a right

“can impose a duty to do certain things but not others. The right to life may impose a duty not to kill or endanger life of another without imposing a duty to take *whatever action is necessary* to keep him alive. Which duties a right gives rise to depends partly on the basis of that right, on the considerations justifying its existence. It also depends on the absence of conflicting considerations. If conflicting considerations show that the basis of the would-be right is not enough to justify subjecting anyone to any duty, then the right *does not exist*” (emphasis added).³⁷⁶

Though there may be no *legal* duty for the individual to save someone else’s life under all circumstances, the moral case might be differently argued. More interesting here, though, is how far the state (and like agents) should take positive action for the sake of life and subsistence. Raz’s reasoning seems applicable, in spite of concentrating on how the state ought to refrain from doing things in order not to infringe on liberty: the problem of ‘conflicting considerations’ is prevalent in the implementation and enforcement of many human rights. Priority among them is, nevertheless, probably to be determined on the basis of, among other things, the con-

³⁷¹ Raz 1984, p. 200.

³⁷² MacCormick 1977, pp. 199ff.

³⁷³ *Ibid*, pp. 198f; Penner 1997, p. 301.

³⁷⁴ Raz 1984, p. 199; 1986, p. 170.

³⁷⁵ Raz 1986, p. 171.

³⁷⁶ *Ibid*, p. 183.

tent, urgency, utility, moral values, political credit, and bases³⁷⁷ of the rights at stake – as well as an assessment of what the corresponding duties would entail. In practice, the monetary costs interlinked with the duties may also be decisive for imposing them fully, partly, or not at all. Many factors may thus contribute to the considerations in instances of conflicting interest-rights – but the rights would still *exist*, based on their moral and/or legal validity. Raz’s argument in this respect cannot therefore be upheld.

2.2.5 Summing up

Raz’s theoretical explanation of rights as serving to benefit X’s interests is well fitted for the purpose of discussing ‘a right to water’. In the context of water, the legal notion of ‘right’ can be explained as the fundamental interest which the individual’s well-being constitutes, and that it corresponds with a justified obligation on the duty-bearer. Therefore, we can conclude from this discussion of the nature and function of a right that

X has a right *to water* because her well-being is of ultimate value and, other things being equal, this aspect of X’s well-being/interest is a sufficient reason for holding the state to be under a duty.

In what follows, we will dig deeper into the schools of jurisprudence that have been implicated briefly in the foregoing, to ask whether we should understand law as man-made (positive) or higher (natural), or a combination of the two. A rather detailed picture of law is given to provide a solid comprehension of the fundamental concepts and the prevailing differences and similarities. Against this, it is easier to appreciate the special features of the Indian system in so far as these follow or deviate from the classical schools.

The strictly legal positivist presumably regards the human right to water as valid law, but only *if* it is legislated on.³⁷⁸ A natural-rights theorist supposedly takes a different view: the law ought to conform to the fact that a right to water applies to all, by virtue of everyone being human and having certain irrefutable, eternal needs.

3 Jurisprudential matters

3.1 *Seeing law as posited*

In jurisprudential language, rights are commonly talked of in the framework of understanding ‘law’ as instituted, enacted, ‘posited’ by legislators, judges or other

³⁷⁷ In terms of the basis of a right, Raz, 1986, pp. 178f., writes that “just as only those whose well-being is of ultimate value can have rights so only interests which are considered of ultimate value can be the basis of rights”. He adds that there are plenty of counter-examples of rights protecting interests of merely instrumental value.

³⁷⁸ By ‘legislated’ is here also meant court decisions and other sources of law, and what can be inferred from the wordings in these sources.

agents with the corresponding legitimacy and authority. ‘Legal positivism’ explains the authority and rationality of the state to govern via a set of rules. This approach to rights and law was introduced³⁷⁹ by *Jeremy Bentham* around the turn of the eighteenth century and furthered by Austin. Seeing, as Austin did, law as the *command* of a sovereign over his subjects means that moral values are of little or no importance in determining the essence and validity of rights and law.

According to Austin, the sovereign is the one and true maker of the law, and the foundation of law and rights is, correspondingly, equal to his will. In other words, the sovereign is *the source* of the law – the one and indivisible legislature, the *authority* behind what is legally regulated. Austin’s teachings imply that there can be no such thing as ‘(public) international law’ to regulate the conduct and relations of states and international organisations. This would be theoretically impossible foremost because of the absence of (a counterpart to) a (one) law-maker that is considered legitimate by all states; a compulsory court system with mandate to settle various disputes; and a coercive police force to carry out inspections, enforce sanctions, etc.

Now, the reductionist stance that Austin represented is obsolete in so far as lawyers and legal theorists acknowledge the factual existence of a whole body of international law, with sources ranging from treaties, covenants, protocols, custom, and general principles, to non-binding guidelines and doctrine. International law further contains regimes dealing with treatment of individuals within state boundaries (such as human rights) as well as with treatment of the environment, natural resources, and issues of development.³⁸⁰ Legitimate law-makers have simply been introduced at many levels.

More importantly, a number of features of most modern-day societies contradict the original positivist definition of law. To start with, the maker and source of law is no more seen as a politically superior and illimitable ‘sovereign’ whose command is ‘the law’. Democratic forms of government give the electorate the opportunity to choose their legislators. Most democracies profess themselves to the rule of law rather than a ‘rule of men’:³⁸¹ their governments are subject to, and not above, the law in their legislative task. A system of checks and balances also applies in those cases. Moreover, a federal republic such as the U.S.A. or India will, by virtue of its constitution, have delegated its law-making power to more than one ‘sovereign’ legislator. These are situated at different levels, just as decentralisation is commonplace in parliamentary democracies.

³⁷⁹ It was *Thomas Aquinas* who coined the term, though.

³⁸⁰ The implementation of international law depends largely on states and other parties’ good will. The UN organisation has certain mechanisms to enforce the rules agreed upon, including reporting. The Security Council is charged with power to establish peace-keeping forces, introduce sanctions and authorise military action. States can also take counter-measures against other states, such as customs tariffs, to bring about desired changes in international relations. Far-reaching exceptions apply in regards to the EU Member States.

³⁸¹ *Roger Cotterrell*, 2003 p. 70, has said that Austin pronounced “a theory of the ‘rule of men’: of government using law as an instrument of power”.

Law has a source-based character, according to contemporary legal positivism. This is sometimes referred to as the ‘pedigree thesis’, which explains the validity of law in terms of how or by whom standards are promulgated.³⁸² Further, in accordance with the ‘social thesis’, law is a social phenomenon, depending for its existence, validity and obligatoriness on social facts. These facts – legislation, custom, judicially established precedents – are the sources of law.³⁸³ Rules of law can therefore be distinguished by identifying the manner in which they were adopted and/or further developed. Moreover, according to the ‘discretion thesis’, judges play an important role in supplementing valid law and existing rules. They manufacture new and fresh law, hereby exercising their discretion.³⁸⁴

In a modern legal system not all rules need to be enforced by means of threat of sanction – many regulations are regarded as ‘valid’ and adhered to nevertheless. Rights are in fact often accompanied by obligations which the addressees abide by to maintain social order. A popular explanation of why people obey laws is that they do so because they conceive of their governments and other authorities as legitimate representatives, with a well-founded power to enact laws and institute rights and duties on their behalf. Hart spoke of there being a normative terminology of ‘ought’, ‘must’, ‘should’, ‘right’, and ‘wrong’ among people.³⁸⁵ – Similarly, states make efforts to comply with international law to keep up an international political order, an end that is in their own self-interest.

The nature of positivist law is seen as dynamic rather than static. The law is never complete, in the sense that the legislator might have left gaps, sometime intentionally to give room for contextual readings. Where an interpretative judgement or choice is required to implement the law, the positivist will have no direction to follow apart from the prerequisites and criteria set out in law, together with other legal sources and such principles of interpretation as are acknowledged. Principles and guidelines employing more value-laden morals and ethics will not be applied by the strict (dogmatic) positivist. Perceiving law in this way makes it a human creation and a social construction, ready to be altered and improved.

Hence, on the present-day view of the positivist approach, law *is* what has been posited by a competent law-maker. To establish the source of the law is fundamental. Yet a plethora of sources is acknowledged: be it a legislator in the form of parliament or a decision-making authority with sufficient powers, and/or a court – these bodies pronounce the law and thereby set the frames for what rights and duties exist in a society.

The positivist stance is that social facts condition and determine the validity of law: proper enactment is fundamental. The acts and rules emanating from the legislator’s desk, and decisions reached in the courtroom, are the sources of law, or at

³⁸² Hart’s version of the pedigree thesis differs in that he explains validity in terms of the ‘rule of recognition’ and emphasises the procedural part of the promulgation.

³⁸³ Dworkin 1978, pp. 17f.; Finnis 2007; Himma 1999, 2006; Marmor.

³⁸⁴ Himma 1999, 2006.

³⁸⁵ Hart 1961, p. 56.

least they are, in *Andrei Marmor's* words, “conventionally identified as such in each and every modern legal system” (emphasis added).³⁸⁶ Such a view takes for granted that there is one way of interpreting the concept of law and, correspondingly, what ‘rights’ are recognised by the system. It says nothing, however, about how we can and should regard alternative ways of ordering conduct, or whether less modern, or less mature, systems can per definition be ‘legal systems’. In India, for instance, we find that ancient principles are sometimes referred to in parallel with the statutory, posited regulations – this practice does not diminish the role of the conventional sources as such, but it raises the question of whether we can and should measure law by the same standards everywhere. In addition, the discussion of water access includes the assertion that water is a natural right. The underlying question of equity that this presents draws on the idea of a moral justification of such rights.

Traditionally, legal positivism considers neither moral ground nor people’s particular views or general sense of justice as by any means necessary in determining what the law *is* and how rules are to be interpreted. If a rule violates a standard of morality, that would not disqualify it as ‘law’. More fundamental is that we identify the appropriate, legitimate way in which the rule was promulgated. Conceptually, there is a detachment between law and morality or, in other words, between what the law *is*, and what the law *ought* to be (the ‘separation thesis’). Hart held that the question of whether a rule or a legal system is law is conceptually separate from its moral merit.³⁸⁷ The separation thesis has two main lines, advocating *inclusive* and *exclusive* legal positivism, respectively. The latter means that the existence and content of law is always determined by reference to its legally binding sources; these provide solutions to questions of law, without the *need* for any recourse to moral argument.³⁸⁸

The inclusive line takes a softer point of view: legal systems *can* condition the validity of law as to its moral content, value, etc.³⁸⁹ Cases can be solved on an *ad hoc* basis in which judges take the moral considerations they deem required. However, they will always depart from and decide the case within the framework of the binding legal sources, the valid social facts.³⁹⁰

The debate will continue on whether legal systems and the content of law can incorporate moral constraints. But in order to fully understand rights and law pertaining to water, we need to supplement the picture of instituted, positive law with the theory of natural law and rights. It is essential to apprehend the debate between the positive theorists and the natural theorists if we are to discuss the meaning of expressing water as a right.³⁹¹

³⁸⁶ Marmor.

³⁸⁷ Bix, p. 75.

³⁸⁸ Cf. Himma 2006; Raz 1979, p. 49.

³⁸⁹ Bix, p. 75, footnote 75.

³⁹⁰ Himma 2006, citing Raz 1979, pp. 49-50.

³⁹¹ A distinction sometimes made between two definitions of the rule of law – a thick and a thin – resembles inclusive and exclusive positivism. On the thick definitions, the rule of law is the core of a just society and inextricably linked to the notions of liberty and democracy. Adherents such

3.2 Seeing law as natural

Proponents of *natural law* claim that “the moral content of norms, and not just their social origins, also form part of the conditions of legal validity”.³⁹² According to the classical theory of natural law and natural rights³⁹³ there are certain principles of human conduct with which man-made law must conform in order to be ‘good’ and even ‘valid’. The secular version of the theory emphasises human beings’ morality, (potential) conscience, and need for guidance in the form of law to attain the common good.³⁹⁴ Natural law is considered eternal and non-changeable by virtue of its character as law ‘higher’ than the law of human societies. Blackstone in his ‘Commentaries on the Laws of England’ from the 1760s pronounced this as follows:

“[T]his law of nature, being coeval with mankind and dictated by God himself, is of course superior in obligation to any other. It is binding over all the globe, in all countries, and at all times: no human laws are of any validity, if contrary to this; and such as are valid derive all their force, and all their authority, mediately or immediately, from this original” (*sic*).³⁹⁵

Natural law is discovered by application of *reason*.³⁹⁶ The contemporary theory or theories of natural law involve a belief in the normative strength of various abstract principles, functioning to recognise individual human dignity and worth.³⁹⁷ In line with this is the conviction that humans have rights because of their nature, rights which cannot be denied anyone on grounds of gender, citizenship, location, status, activities, disposition, personal views or the like. They apply to all people regardless of whether they are inscribed and established as legal rights.

John Locke claimed that the rights to *life*, *liberty* and *property* have a foundation independent of the laws of any particular society. They are based on political gov-

as *Friedrich Hayek* and *Cass Sunstein* say a country can be spoken of as being ‘ruled by law’ only if the state’s power is constrained and basic freedoms and civil and political rights (speech, assembly) are guaranteed. The rule of law includes elements of political morality. The definitions of a thin rule of law are more formal: the important things are not democracy and morality but property rights and efficient administration of justice. Laws must provide stability and predictability but do not necessarily have to be moral or promote human rights. Anonymous 2008e, p. 96.

³⁹² Marmor.

³⁹³ In the modern tradition, many theorists see natural *rights* as the alter ego of natural *law*, or something interchangeable or at least closely connected. Some hold that the modern idea of natural rights has grown out of the natural-law theory. The more traditional conceptions of natural law emphasised duties, whereas natural rights normally focused on privileges or claims to which an individual was entitled. Hart, who wrote extensively on natural law, considered natural rights as a distinct entity of discussion. Cf. Bix, pp. 69-70; the Columbia Encyclopedia on ‘Natural rights’; Finnis 1980, p. 198; Hart 1955; Tuckness; Wenar 2007. – Here I use the notions natural law and natural rights interchangeably.

³⁹⁴ Here I mainly describe today’s secular approach to the natural law theory. The divine law in the Christian tradition, thought to be revealed mainly through prophets and the scriptures, nevertheless played an important role in the early development of natural law.

³⁹⁵ Blackstone, BI Comm, Introduction, Sec 2, p. 41.

³⁹⁶ Cf. Locke, for instance ‘An Essay Concerning Human Understanding’.

³⁹⁷ Reynolds, p. 441.

ernment being legitimate and justified, as a result of humans being naturally free and equal (the theory of the ‘social contract’) and able to resist a government which does not protect their rights. Likewise, by virtue of being ‘higher’, natural law is sometimes claimed to exist even when it is not actually enforced by our societal institutions. For Locke, natural rights are not to be infringed by the government, i.e., there is a right to freedom from state interference. This is a negative interpretation of rights, which involves no obligation on the state/government to *promote* rights through positive action, such as by furnishing citizens in general or at least under-privileged groups with benefits.

Natural-rights theories assume that the endeavour to enact (posit) ‘good’ law must entail a search for what it ultimately *ought* to be, in order to comply with the standards of the higher law. This has been expressed in the phrase ‘an unjust law is not a true law’. Law, in this traditional perspective, can thus be seen as morally problematic. While normally an indispensable instrument of great good, it is simultaneously an instrument that readily becomes one of great evil – unless law-makers and interpreters vigilantly make it good by recognising and fulfilling their moral duty to do so, “both in settling the content of its rules and principles and in the procedures and institutions by which they make and administer it”.³⁹⁸ The role of practitioners in acknowledging and incorporating the values that natural law proposes becomes essential, but is carried out only with some difficulty. As we will see, this aspect is still at the core of the problem of natural law.

While some modern naturalists are self-proclaimed human-rights lawyers, there are also scholars who are ascribed to the field of natural law more because of their criticism of legal positivism. *Ronald Dworkin* and *Lon Fuller* are the two most renowned.³⁹⁹ Dworkin avoids the label natural law but once contended that ‘the content of law’ might depend on the correct answer to ‘some moral question’ and that if so, he might be “guilty of natural law”.⁴⁰⁰

Considering these two theorists, we can observe that today’s natural law is explained partly as anti-positivism. Nevertheless, the approach to morals, ethics, values and reason constitutes a classic divide between legal positivism and natural law. Having said this, we now look more closely at a ‘boundary resolution’ that has taken place during the past fifty or sixty years and led to a lessening of difference between the two schools. This process has taken place much due to a rereading of

³⁹⁸ Finnis 2007. *Cf.* Hittinger.

³⁹⁹ Fuller, pp. 106, 209, sees law as a process or function, as the enterprise of subjecting human conduct to the governance of rules. Law is thus necessarily subject to a procedural morality. Rather than seeing law as a command from the sovereign – or as the “one-way projection of authority” that modern positivism is about – it is to be understood as depending on a reciprocity of duties between citizens and the government as law-maker. In terms of rights and claims, Fuller is however more concerned with the ‘morality of duty’ and the need for functional regulation of proper conduct. The regulation as such also needs to satisfy demands for ‘internal morality’, such as that laws remain stable over time. *Cf.* Bix, pp. 77f.

⁴⁰⁰ Dworkin 1982 p. 165, in Bix, p. 83.

one of the oldest of naturalists – Aquinas – at a time when there was little interest in and respect paid to natural law.

3.3 *Revision? Modern-day ‘ought’ and ‘is’*

3.3.1 From ‘higher’ to Hart

The process of closure between positivism and natural law has occurred simultaneously with a widened understanding of and interest in the world’s legal systems.⁴⁰¹ However, much of the reason for the renewed attention paid to natural rights and natural law must be linked to the aftermath of World War II, in Germany and many other Western nations.⁴⁰² Numerous legal scholars have subsequently emphasised, with more or less express reference to the laws instituted by the Nazi regime, the maxim that unjust laws cannot be true laws. The methods of totalitarian states had included restriction of liberties and many other abominable actions, performed in the name of *valid law* that was in turn pronounced within the framework of the legal system. For comparison, it can be noted that after the proclaimed State of Emergency in India had come to an end in 1977, it was widely held that the legal positivism of the Supreme Court had helped the political establishment against dissenters⁴⁰³.

A call for justification of state power to rule and regulate its citizens began with references to ‘the higher’ laws and values. The competence of the law-making authorities to promulgate obligations should be limited in accordance with such values. The modern natural-law discourse gradually focused on ideologies and the rights and liberties the individual should be able to enjoy in relation to the state. The equality of all human beings – regardless of gender, citizenship, race, etc., – was also in focus.⁴⁰⁴ A new feature of this discourse was that natural law was no longer perceived as eternal and unchangeable. Rather, it also can and needs to be adjusted to context and prevailing societal conditions.⁴⁰⁵

Several other steps and components can be identified as important to the process of bridging the gap between this new form of natural law and the gradually revised legal positivism. Proponents of natural law and natural rights have, for instance, come to realise that codifying principles and ideals results in their being perceived as stipulated sources by (more dogmatic) law-applying institutions; this may provide them with the strength and authority needed for them to be acknowledged and realised. This is not least important in relation to human rights: as indicated

⁴⁰¹ Cf. Freeman & Lloyd, p. 129.

⁴⁰² *Karl Olivecrona* with references, pp. 71ff., notes that England and Scandinavia were the countries least affected by this new interest in natural law: England had its Austin, and Sweden and Denmark the Realist movement with *Axel Hägerström* as forerunner.

⁴⁰³ This establishment, under the then Prime Minister *Indira Gandhi*, relied on the judiciary being biased and in favour of property owners, princes, political leaders, and civil servants. Sathe, pp. 104, 106.

⁴⁰⁴ *Olivecrona*, pp. 72f.

⁴⁰⁵ *Ibid*, p. 74.

above, the human right to water is not considered a binding right by all as long as it is not expressly regulated in the sense of an all-encompassing right.

Another feature is that convinced positivists have had to give in to the observation that there *are* several links between the validity of law, and morality (ethics), and the law is not by definition a strictly utilitarian enterprise. Hart was one of the more important proponents of a closure. Himself a positivist, he suggested that because the theory of natural law had been advanced as part of a general conception of nature, it might have seemed to its critics to “spring from deep and old confusions from which modern thought has triumphantly freed itself”.⁴⁰⁶ To overcome these confusions, Hart managed to further the positions from a sociological point of view.⁴⁰⁷ He described an “intimate connection” between the two theories of moral versus legal rights,⁴⁰⁸ and stated that there are “many different types of relation” between law and morals – statements undeniably different from the contemporary approach.⁴⁰⁹ “Indeed”, Hart observed, natural law “contains certain elementary truths of importance for the understanding of both morality and law”.⁴¹⁰

Hart spoke of there being ‘at least’ one natural right: the equal right of all humans to be free.⁴¹¹ He was clearly concerned with the role of law in society and humankind’s progress. The central indisputable element, which Hart thought gave empirical good sense to the natural law terminology, was held to be a ‘modest’ objective: humankind strives to realise its optimum state or end, which is survival, and we must assume that everyone’s aim, generally speaking, is to live.⁴¹² Hence, we are concerned with “social arrangements for continued existence, not with those of a suicide club”.⁴¹³ And hence there are certain rules and norms of conduct that any society must contain if it is to be viable. They constitute a common element in the law as well as in conventional morality and can be distinguished as different forms of social control.

All the above would enable also the strict positivist to claim that every human being has a moral *and* legal right to access to water, a right to be recognised by *law*. The case for human rights is further substantiated by what Finnis has written.

⁴⁰⁶ Hart 1961, p. 182. Hart’s perception can be compared with Bentham’s characterisation of natural law as ‘nonsense on stilts’.

⁴⁰⁷ It has also been pointed out that Hart used a hermeneutic approach in examining conduct ‘from the internal point of view’ of a group’s members; *cf.* MacCormick 1998.

⁴⁰⁸ Hart 1955, p. 177. Moral rights should be distinguished from moral concepts as such.

⁴⁰⁹ Hart 1961, p. 181; *cf.* MacCormick 1981, p. 99: there is no single ‘positivism v. natural law’ question.

⁴¹⁰ *Ibid.*, p. 184.

⁴¹¹ Hart 1955. This article, written partly as an anti-war statement, boils down this natural right to a claim for freedom in terms of choice, capacity and liberty. Although justified as rights applicable to each and everyone, Hart seems to have exempted conditions of extreme scarcity; with reference to Locke 1689, he thought that “natural rights are only of importance ‘where peace is possible’”, *ibid.* p. 175, footnote 2. It is difficult to draw any conclusions in relation to drinking water and water scarcity from this short note, though.

⁴¹² Hart 1961, pp. 186f.

⁴¹³ *Ibid.*, p. 188.

3.3.2 New (neo-) naturalism

In line with the view that law is an instrument to achieve social order, Finnis defines natural law as a “set of principles of *practical reasonableness* in ordering human life and human community” (emphasis added).⁴¹⁴ He holds that the principal concern of the theory of natural law and natural rights is to explore the requirement of such reasonableness “in relation to the good of human beings who, because they live in community with one another, are confronted with problems of justice and rights, of authority, law, and obligation”.⁴¹⁵ ‘Sound laws’ are to be derived from unchanging principles, having their force from their reasonableness. And all this translates “into the vocabulary and grammar of rights (whether ‘natural’ or ‘legal’)”.⁴¹⁶

Like other new- (or neo-)naturalists, Finnis justifies law and rights not as being eternal or divine,⁴¹⁷ but by simply referring to the ‘basic values’ and aspects of human well-being; the indemonstrable but self-evident principles which shape our practical reasoning.⁴¹⁸ Human rights are in the interest of each and everyone and thus justifiable on the grounds of their instrumental value in creating the necessary conditions for human well-being. Finnis, who draws on Aquinas’ virtue ethics, has listed basic forms of good that are ‘opportunities of being’ and of flourishing.⁴¹⁹

Finnis is considered the pioneer in revisiting natural law and rights. In his seminal work, he writes that “[a]lmost everything in this book is about human rights”, adding “‘human rights’ being a contemporary idiom for ‘natural rights’: I use the terms synonymously”.⁴²⁰ Hart held that Finnis’ ‘reflexive interpretation’ of natural law – as “consisting of certain principles of ‘practical reason’ for the ordering of human life and society” – was “in many respects *complementary* to rather than a rival of positivist legal theory” (emphasis added).⁴²¹ Other prominent legal positivists have agreed that natural law, in the revisited interpretations it has received more recently, is attractive. Proponents of the modern theory of natural law have in one way or another confronted “the extent to which moral issues should, or must, be considered when constructing a proper descriptive theory of law”.⁴²²

⁴¹⁴ Finnis 1980, p. 280. He notes that “English lawyers are not used to reasoning in terms of what is and is not a matter of ‘the law of nature’; instead they frame their reasoning ‘in that behalf’ in terms of what is and is not ‘against reason’ (i.e. unreasonable)”, p. 281, note 11.

⁴¹⁵ *Ibid*, p. 351.

⁴¹⁶ *Ibid*, p. 198.

⁴¹⁷ *Ibid*, pp. 388ff., comments upon divine nature, “the Augustinian and Thomistic speculation on Eternal Law”, etc, and writes that it should “not be overlooked that the originators of natural law theorizing, who did not suppose that God has revealed himself by any such act of informative communication, believed none the less that through philosophical meditation one can gain access to the transcendent source of being, goodness, and knowledge”, *ibid*, p. 392.

⁴¹⁸ *Ibid*, p. 81, referring to Aquinas’ first principle.

⁴¹⁹ *Ibid*, pp. 86ff., 103.

⁴²⁰ *Ibid*, p. 198.

⁴²¹ Hart 1983, p. 10.

⁴²² Bix, p. 96. Apart from this, Bix holds that the nature of the claims related to modern ‘natural law’ are sometime less well articulated and obvious – at least in comparison to traditional theo-

3.3.3 Summing up

To summarise the discussion in this section, the divide between natural law and legal positivism appears to have lessened during the past fifty-odd years: neither school is any longer to be understood entirely as for or against the inclusion of moral values into the understanding of ‘law’. Nevertheless, it is still commonplace that proponents of legal positivism emphasise the distinction between ‘valid law’ and what is not valid law. This takes place in academia, within the UN system, and in the courtroom. We will therefore look closer at the merging of thought in jurisprudence and in practice and at some more practical implications of this issue.

3.4 *Practical implications of jurisprudential standpoints*

3.4.1 The judge as law-maker

Despite what was held above about the ‘discretion thesis’ and the role of interpretative judgments, the fact that law in common-law and mixed systems is partly judge-made poses a problem to the strict positivist. Each pronouncement of a precedent, when the judge is not merely *declaring* existing law or *interpreting* the language of the law and applying the valid set of rules, counters the order once defined by Austin: that law is the command of the legislature (the ‘sovereign’ of modern days).⁴²³ When the judiciary makes law, decision-making may also involve the taking of a discretionary position and a moral stance. In both cases this also stretches the intended role of the court as the mere judicial power in the *trias politica* system, i.e. the separation of the democratic state’s power into the Executive, the Legislative, and the Judicial.⁴²⁴

In practice, the judge comes to the fore as a law-maker when existing sources are few, i.e. there is no authoritative statement of the law, or else valid rules are deemed inadequate or ‘uncertain’ for solving the dispute at hand. Such absence of applicable law is prevalent in the field of water rights in many parts of the world.

What, then, guides the judge in “manufacturing a fresh legal rule”?⁴²⁵ The outer frame for decision-making consists of demands for consistency, predictability, efficiency, transparency and fairness – in other words, the rule of law. There is no neat and clean template for how to solve judicial problems, though, especially when dealing with more complex cases. *Edward Thomas* points to empirical experience of how a rule-bound approach has an irresistible appeal to many judges, as it appears to provide certainty and convenient categories. But whenever there is a need to fill

ries, p. 100. Cf. Finnis, Dworkin and Fuller.

⁴²³ *John Gardner*, p. 214, contends that “judge-made legal norms are no less posited than their enacted counterparts. This is acknowledged in the very idea that judge-made law is judge-made, i.e., is legally valid because some judge or judges at some relevant time and place announced it, practiced it, invoked it, enforced it, endorsed it, accepted it, or otherwise engaged with it” (emphasis in original).

⁴²⁴ The *trias politica* model was introduced by *Baron de Montesquieu* during the 18th century.

⁴²⁵ Dworkin 1978, p. 17.

out lacunae in law by making use of the traditional argumentation *per analogiam, e contrario* and *a fortiori* (by analogy; contrariwise; and from stronger reason), the integrity of the judge or other decision-maker is put to the test.⁴²⁶ The process is designed to minimise the intrusion of the personal and potentially arbitrary values of the decision-making judge, and to ensure predictability as far as possible. Thus far, the legal process nonetheless has its deficiencies – it is after all run by humans – and it gives leeway for deliberative reflections. Every time rules need to be extended or contracted, their incompleteness are confirmed, and if rules are incomplete, Thomas holds, they must necessarily also be uncertain.⁴²⁷

To what extent can moral, social values and norms then function so as to supplement the sources in deciding a matter? If Thomas is right that the process is designed to minimise the influence of values, we can compare with Dworkin's attacks on positivism. In doing so, Dworkin takes his point of departure in

“the *fact* that when lawyers reason or dispute about legal rights and obligations, particularly in those hard cases when our problems with these concepts seem most acute, they *make use* of standards that do not function as *rules*, but operate differently as principles, policies, and other sorts of standards. Positivism... is a model of and for a system of rules, and its central notion of a single fundamental test for *law* forces us to miss *the important role of these standards* that are not rules” (emphasis added).⁴²⁸

Dworkin is critical of the narrow perspective upon what counts as legally valid ‘law’ and ‘rules’; of the positivist model which ‘forces us’ to dismiss the legality and role of *standards* and *principles*. Without going deeper into Dworkin's theories, it is enough here to state that his criticism applies also to the courtroom. In reality, lacking legislation, rules may actually constitute one (but one) decisive element. In addition, general principles can be applied and allowed to determine how to weigh and balance the interests vested in a particular case. For instance, a maxim can replace valid legal rules because decency so demands.⁴²⁹

A judge cannot effectually be made to fully ignore her/his personal morality – or those of other people – and this might not even be desirable at all times. Such values could thus manifest themselves *via* individuals within the judiciary, though then probably in a rather *ad hoc* manner.⁴³⁰ The practical implications of natural-law theories are therefore found mainly in common-law jurisdictions, the system of

⁴²⁶ Thomas, p. 86.

⁴²⁷ Thomas, p. 31.

⁴²⁸ Dworkin 1978, p. 22.

⁴²⁹ Cf. Dworkin 1978, pp. 22-28. A typical example, according to Dworkin, is *Riggs v. Palmer* 115 N.Y. 506 = 22 N.E. 188 (1889) which concerned whether an heir, named in a will, could inherit from the grandfather he had murdered. The legally-valid and binding statute regulating the making, proof and effect of a will could not be literally construed, according to the Court. Instead, a fundamental maxim must apply: no-one should be permitted to profit from his own fraud; or acquire property by his own crime. The murdered did therefore not inherit his grandfather.

⁴³⁰ This is not to deny the legislature's possibilities to enact morally-based statutory law, after deliberate considerations of prevailing values.

which by definition provides for the judges' law-creating power in courts run by (one hopes) reasoning and reflective professionals. Mixed systems, where 'legal pluralism' prevails,⁴³¹ might be even more interesting in this regard.

In a system guided by common law, the doctrine of *stare decisis* (stand by decisions) also limits how far the court can go in its deviation from what is previously established. This doctrinal rule circumscribes the discretion of judges, because judicial creativity has to be constrained in the interest of predictability and consistency.⁴³² However, we can look at how the Indian Supreme Court has pronounced that where creativity must prevail over consistency, it has the liberty to depart from previous decisions under certain conditions, as explained in *Sajjan Singh v. State of Rajasthan* (1965):

“Though the Constitution is an organic document intended to serve as a guide to the solution of changing problems[,] the Court *should be reluctant* to accede to the suggestion that its earlier decisions should be lightheartedly reviewed and departed from. In such a case the test is: Is it *absolutely and essential* that the question already decided should be reopened. The answer to the question would depend on *the nature* of the infirmity alleged in the earlier decision, its import on *public good* and the validity and compelling character of the considerations urged in support of the contrary view” (*sic*, emphasis added).⁴³³

It was also held in this case that a literal construction of the words used in a relevant provision of the Constitution cannot 'reasonably' solve the problem of construing it. Much of the reasoning was reaffirmed in *I.C. Golaknath v. Punjab* (1967):

“[I]n a progressive and dynamic society the character of these problems is bound to change with the inevitable consequence that *the relevant words used in the Constitution may also change their meaning and significance*” (emphasis added).⁴³⁴

Stability is thus sought after, at the same time as the court must concede change to support the development of a dynamic society. Reasonableness is key, particularly when the court is balancing competing interests of liberty and social control.

3.4.2 Discretion and morals

Let us picture a dispute which, having reached the court for settlement, is found to be complex and involve issues not previously solved. Established rules and precedents give little direction, although the judge tries to relate to the intentions and wider reasoning behind the law. The dispute concerns a scarce natural resource and a balance needs to be struck between the interests involved: economic growth, 'development' and extraction on the one side; and alternative use of the resource by weaker groups and/or conservation on the other. New law must be made on the matter brought before the court. How far can it go in its reasoning in this 'hard'

⁴³¹ The concept of legal pluralism will be discussed more at length in Chapter VII.

⁴³² Sathe, p. 44. On judicial creativity, see below on PIL.

⁴³³ AIR 1965 SC 845.

⁴³⁴ AIR 1967 SC 1643.

case? Would the answer be different if it came from someone with an inclination for natural law, and does natural law necessarily imply judicial activism?

Several scholars have opinions on the judge's job in this context. *John Gardner* reminds us that the law is seldom silent over 'gaps'; there are closure rules such as 'everything not forbidden by law is permitted by law'.⁴³⁵ Dworkin describes as a key tenet – to which most though not all positivists supposedly subscribe – that when a case is not clearly covered by a rule, it “must be decided by some official, like a judge, ‘exercising his discretion’, which means reaching *beyond the law*” (emphasis added).⁴³⁶ We can assume that the notion of ‘discretion’ means more than (good) ‘judgment’ as in ‘common sense’.

Gardner describes as a myth the notion that there could be “a proper way of adjudicating cases, according to which judges should not have regard to the merits of cases when deciding them”; there is no obligation to apply only “valid legal norms”.⁴³⁷ Hart was one of the old-school positivists to whom it was clear that judges have and exercise discretion because of the open texture of law. Judges do this within a delimited ambit as they are “parts of a system the rules of which are determinate enough at the centre to supply standards of correct judicial decision”.⁴³⁸ In line with how Thomas argues above, Hart considered that judges make decisions within a certain framework and do not deviate from this process.

Dworkin strongly contends that courts do not create any *new* rules, they only apply pre-existing principles and standards and tend to ‘discover’ and draw upon already-established principles.⁴³⁹ What Dworkin might be thinking of is the application of reinvented and reinterpreted old maxims to hard cases, or a transplant of a standard from e.g. the law on landed property to the law on immaterial property. Several Indian precedents on environmental protection illustrate how both concepts and doctrinal principles are often borrowed from other jurisdictions, as the examples below will show. This practice is a way of expanding domestic law, but also of legitimising the judge's own decisions by basing them on sources already tested and accepted elsewhere. Such incorporation of legal concepts might be more or less successful, depending on how well the foreign rule fits in with the legal system into which it is taken.

Nonetheless, new knowledge and more insights into our complex, highly inter-related modern society command fresh looks parallel with – and maybe instead of – the eternal comprehensions of (the role of) law. Such approaches (rules, norms, standards) might be partly ‘discovered’ but they may also need to be invented and pronounced or, in other words, created.

⁴³⁵ Gardner, p. 212.

⁴³⁶ Dworkin 1978, p. 17. He is strongly opposed to the idea, though, and holds that ‘discretion in the sense of judgment’ amounts to nothing but tautology, *cf. ibid* p. 34. It is easy to agree with him, seeing arguments such as Greenawalt's, pp. 16f., that “moral judgment might be regarded as *the method* judges use to decide how to exercise their discretion” (emphasis added).

⁴³⁷ Gardner, p. 211, objecting towards Dworkin's stance.

⁴³⁸ Hart 1961, pp. 141f.

⁴³⁹ Dworkin 1978, p. 35.

To this may be added another aspect of ‘discretion’, viz. that the judiciary makes use of its freedom to diverge from the sources when these are unfit, or fill out their absence by balancing interests and take account of socioeconomic conditions as well as moral values and social norms. Some scholars see it as desirable and even appropriate that judgments sometimes involve moral dimensions. *Kent Greenawalt* even argues that the serious discussion is about *how often* judges adopt moral elements and *what* elements dominate. Thus,

“[t]he crucial question for legal positivism is how decisions of legal cases *requiring moral judgment* can fit with the fundamental positivist thesis that law is posited, already declared, by human beings. One possible answer is that something *is not law until* it is settled according to a social source, that, until judges resolve issues that are not settled by the legal materials, there is a gap in the law that *must be filled by an exercise of discretion* (emphasis added).⁴⁴⁰

It is interesting to compare this with what was held by *Kania* CJ of the Indian Supreme Court in a case concerning judicial review, among other things, in 1952:⁴⁴¹

“In evaluating such elusive factors and forming their own conception of what is reasonable, in all the circumstances of a given case, it is *inevitable that the social philosophy and the scale of values of the judges* participating in the decision should play an *important part*, and the limit to their interference with legislative judgment in such cases can only be dictated by their *sense of responsibility and self-restraint* and the sobering reflection that the Constitution is meant not only for people of their way of thinking but for all, and that the majority of the elected representatives of the people have, in authorising the imposition of the restrictions, considered them to be reasonable” (emphasis added).⁴⁴²

The Court had to take the citizens’ standpoint when evaluating the issues of liberty at stake in the case and *S.P. Sathe* comments that the above quotation expresses something “quite at variance with the black letter law tradition of judicial process, to which most of the Indian lawyers and judges were exposed through their legal education”.⁴⁴³ Being brought up in the British tradition, Indian judges seldom used to admit their law-making role.⁴⁴⁴ There is much to indicate that the situation is under constant change, though. *Rajeev Dhavan* has written that an impetus for renewed Indian scholarship was given by the exchange law programmes with the U.S. that took place during the 1950s, in terms of funding, precedents, scholars and research.⁴⁴⁵ That this would greatly influence Indian legal training and, subsequently,

⁴⁴⁰ Greenawalt, p. 16.

⁴⁴¹ *Judicial review* is the power of a court to oversee the actions of public-sector bodies and other co-ordinate organs of government for their legality or constitutionality, i.e. that they exercise their power within the limits drawn up by the Constitution.

⁴⁴² *State of Madras v. V.G. Row* AIR 1952 SC 196, p. 200.

⁴⁴³ *Sathe*, pp. 43, 46.

⁴⁴⁴ *Ibid*, p. 43.

⁴⁴⁵ *Dhavan*, pp. xx f.

the way in which judges take impression from various American legal doctrines is noticeable in the genesis of principles borrowed from outside the Indian system.

Fuller prefers to see law not as a one-way projection of authority, but as a collaborative enterprise and a process of interaction. In turn, this is a problem of interpretation and of maintaining legality. Interpretation – of words as well as of interactional behaviour – is significant “for every aspect of the legal enterprise”.⁴⁴⁶ It is also a matter of language and communication, not only of determining facts and the meaning of applicable rules. In modern democracies, a heavy responsibility rests on “those whose task it is to design and install the facility [of law]”.⁴⁴⁷ A good decision by, e.g., a dispute-resolving judge would exemplify two interrelated qualities: a respect for systematic structure and an understanding of the social context and the needs of the situation.⁴⁴⁸

3.4.3 Summing up

As shown in these sub-sections, the role of the courts and the judiciary as law-maker is fundamental in all those instances when the legislator has not yet regulated an issue. Where the legal sources are incomplete and/or their interpretation needs improving, a judge’s discretion and value-system likewise enter the decision-making process. The Indian Supreme Court allows itself considerable freedom and has time and time again proved to be a champion of the people’s rights.

The judiciary’s power to make new law is institutionalised as common law, following by virtue of the position that courts and judges have in society. This law-making power is a human construction, with imperfections and negative aspects attached; judges are influenced by and connected to the whole of society and its development, but may also stand for a conservative way of reasoning not fully in step with contemporary views and sense.

A judge should make interpretations conscientiously, based on his or her authority.⁴⁴⁹ Theorising and conceptualising about the judge’s task of interpretation risks being very abstract, though, partly because the actual reasoning behind the decision-making is obscured or at least not possible to pinpoint exactly. It is therefore difficult to establish that ‘discretion’ amounts to a judge’s intrinsic moral values, or that a decision for instance is taken in accordance with community sentiment about what is right and wrong. The theoretical discussion therefore makes way now for the overwhelming question: what applies in practice?! After a survey of Indian jurisprudence, we look more closely at the way in which judges have reasoned in some difficult cases.

⁴⁴⁶ Fuller 1969, p. 224.

⁴⁴⁷ *Ibid*, p. 223. Fuller was one of Hart’s most influential critics. His variant of natural law focuses on social order and on regarding law as a facility enabling men to live and attain a satisfactory life in common. *Cf.* Fuller 1958 p. 84, cited in Freeman & Lloyd, p. 124.

⁴⁴⁸ Fuller 1969, pp. 227ff.

⁴⁴⁹ Greenawalt, p. 18.

4 Features of Indian jurisprudence and practice

4.1 Introduction

The roots of Indian jurisprudence can be traced back to the time of 100 C.E., when the teachings of Brahmin priests were compiled. Much – but not all – of traditional Hindu and Islamic law was later supplanted by English common law as a result of colonialism, so that Indian law and jurisprudence are now known foremost for their English legacy. What was Hindu law literature is now rather a foundation of philosophy (and theology).⁴⁵⁰ Transplantation of the English common-law culture into the Indian legal system made a firm and lasting impact, something which becomes clear from reading the Supreme Court's decisions. The legacy is also shown in the fact that the language of the administration and judiciary is English.

The Indian system does not subscribe wholly to the dominant Western understanding of law as informed by positivism. Instead, legal pluralism applies, meaning that the system is an intersection of different legal orders, much like layers of juridical norms. In addition, religious, social and cultural norms as well as customary practices prevail in parallel with the legal norms, at least in sections of Indian society such as in villages and among indigenous groups. Several aspects of this multifaceted and mixed legal system are relevant when analysing the country's water-rights discourse and regulations.

In addition to the internal characteristics of India's legal system, the import of legal principles, measures and techniques has continued even after the influence of English law ended with Independence. Rather, the extent of horizontal as well as vertical borrowing⁴⁵¹ of enviro-legal ideas has increased, a phenomenon that can be referred to as 'diffusion'⁴⁵². Examples of both types are shown below.

As we will see, many court decisions on environment-related topics depict a spiritualism that would possibly have been labelled nature romanticism in the West, but which is to be understood against the highly religious society that is India.⁴⁵³ How far the judiciary gives expression to natural-law values in its reasoning is a closely-related question, albeit not easily answered. The importance of basic human values, practical reasonableness and moral principles is equally difficult to pinpoint. There are scholars who hold that *dharmā* (cf. next sub-section) and/or other ancient philosophical and religious concepts are more central in the Indian system. For instance, the *Vedic* traditions of Hinduism link the power of the natural world with gods, such as *Ap*, the god associated with water. The *puja* (worship) that is performed by millions of Hindus daily both employs and evokes these powers/gods. Rivers have a sacred role in Hindu religious practice and have traditionally always

⁴⁵⁰ Glenn, pp. 273, 259.

⁴⁵¹ Cf. Wiener.

⁴⁵² Cf. Twining 2005a.

⁴⁵³ Cf. for instance the wordings in *Attakoya Thangal v. Union of India* (1990)1KLT 580 and *F.K. Hussain v. Union of India* AIR 1990 Ker. 321.

been considered pure. Although modern industrial contaminants and human wastes foul it badly, the Ganges still plays a very important role in India's ritual life.⁴⁵⁴

4.2 Dharma, religious values, and natural law

4.2.1 Dharma as a code of right behaviour

Several scholars assert that Indian environmental jurisprudence is quite unique, at least compared with that in other common-law countries. *C.M. Abraham* has, for instance, shown that awareness of autochthonous – ancient and pre-colonial – concepts relating to nature and environment protection “can be and has been put to productive use in the development of a modern regime of environmental regulation”.⁴⁵⁵ Although this assertion applies to environmental law in general, water can also benefit from reasoning along the lines of pre-modern notions.

Most interesting of all the religious and/or value-laden notions stemming from pre-modern times is that of *dharmā*, which is connected to Hinduism, Buddhism and Jainism. It stands for ‘righteousness’, ‘virtues’, or the ‘duties’ that are laid down according to each individual's *varna* (caste). It is commonly used to denote a religious code of ‘right’ behaviour and a divine system of morality. *O.P. Dwivedi* adds that the term signifies the true and essential nature of any object.⁴⁵⁶ These norms are codified in, among other writings, the *Dharmaśāstra* – the sacred text that defines and discusses ‘right behaviour’ – and the *Manusmitri* – the Codex of *dharmic* laws.⁴⁵⁷ The civil servants of the British administration (mis)took especially the latter to be the law of the land for Hindus in India, had them translated to English, and sought to apply some of them alongside the transplanted common law.⁴⁵⁸

The *Manusmitri* are no longer of any direct relevance to the Indian legal system, but the *Dharmaśāstra* are still occasionally referred to as an important source of norms and obligations in family law, despite heavy criticism by feminists and *dalits* for propagating a patriarchal, caste-based society.⁴⁵⁹ It has also been pointed out that even these rules are administered in the ‘common-law style’; isolated from *śāstric* techniques of interpretation and procedure.⁴⁶⁰

Abraham holds that the development of environmental jurisprudence in India manifests neo-*dharmic* jurisprudence. It accommodates ideas and ideologies currently voiced by experts in international fora around the world for protecting the environment, in forms modified by the Indian legal culture.⁴⁶¹ Abraham has shown

⁴⁵⁴ Chapple.

⁴⁵⁵ Abraham, p. 3, *cf.* p. 135.

⁴⁵⁶ Dwivedi, p. 168.

⁴⁵⁷ A *śāstra* (or *shaasthra*) is a sacred and authoritative Hindu text or scripture, originally in *Sanskrit*. *Dharmaśāstra* pertains to the concept of *dharmā*, and dates back to between 600 B.C.E. and 200 C.E.

⁴⁵⁸ One of the more interesting accounts for this is given in Dhavan, pp. xiv f.

⁴⁵⁹ *Cf.* Menski 2004.

⁴⁶⁰ Nariman, p. 32.

⁴⁶¹ Abraham, p. 142.

that India's indigenous legal tradition is based on a specific understanding of the interlinkages of law, philosophy and religion, which is "fundamentally different from the positive law tradition prevalent in modern Western societies. It is also not the same as the natural law tradition based on mere morals and values derived from religious beliefs".⁴⁶² He contends that the ancient *dharmic* system "relies much more on the power of self-control than on externally enforced control" such as regulating human conduct by way of sanctions.⁴⁶³

We can compare with how the *Vashishta Dharmasāstra* contains various rules of conduct with built-in disincentives, such as that *the intellect of a man perishes if he voids urine against [in] water*.⁴⁶⁴ Both *Vashishta Dharmasāstra* and *Manu* rule that *Brahmins* (teachers, scholars and priests) and *Kshatriyas* (kings and warriors) who take to trading in salt immediately become outcast; by selling milk they become *Shudras* (here: servants) after three days. Interestingly enough, selling water is equally prohibited for people of these two upper castes,⁴⁶⁵ but no 'internal sanction' is expressed in this case. Self-restraint is then ordered only by virtue of the scriptures' weight.

As *dharma* does not approve the killing of animals, most Hindus used to be vegetarians. Respect for living creatures is still widely practised, though many have given up on vegetarianism. The importance of this *dharmic* aspect however shows from the fact that compassion for living creatures is inscribed in the Constitution as being a fundamental duty of every citizen (Art 51A(g)). Another central philosophy of *Manu* and *Dharmasāstra* seems to have greater influence: *pluralism* in the sense of religious tolerance is 'the bedrock' of Indian secularism and a foundation of the Constitution, as laid down in *Valsamma Paul v. Cochin University*.⁴⁶⁶

Dharma is only one side of human behaviour – the other is the concept of *karma*, which should be translated as 'action' rather than meaning 'destiny'. Each act has a consequence that will always be with us and will create its own chain of reactions. Environmental pollution, for instance, might not show immediately but it is an *a-dharmic* action and will therefore result in harmful effects. Where one cannot possibly foresee the results of certain actions, one should either be ready to face and overcome the resulting obstacles at some time in the future, or to suffer the repercussions of one's actions.⁴⁶⁷ Hinduism's ideas of reincarnation and *karma* directly affect the view of the environment and humanity's place in the world. They lead to encouraging a life that does not pollute it.⁴⁶⁸

According to *Werner Menski*, the conceptual transition from *dharma* to law was made more explicit from medieval times, but any law remained subject to the over-

⁴⁶² *Ibid*, p. 85.

⁴⁶³ *Ibid*, p. 86.

⁴⁶⁴ *Vashishta Dharmasāstra* Part 1, Ch VI, para 11.

⁴⁶⁵ *Ibid*, Ch II, para 22-27; *Manu* Ch X, 92.

⁴⁶⁶ AIR 1996 SC 1011, para 25 = (1996) 3 SCC 545. *Cf.* Art 15(1) and 25 of the Constitution.

⁴⁶⁷ Dwivedi, p. 169, with references.

⁴⁶⁸ Fisher-Ogden & Saxer, p. 87.

riding concerns of *dharmā*.⁴⁶⁹ This situation persists, to some extent, in personal (family) law, but the current influence on environmental and water-related issues is far from clear. Dwivedi holds, in abstract terms, that *dharmā* “can be used as a mechanism to create respect for nature; moreover, it may serve as both a model and an operative strategy for the transformation of human behaviour” whence eco-spirituality and stewardship can be developed.⁴⁷⁰ Christopher Key Chapple has noted that *dharmā* emphasises “a need to act ‘for the sake of the good of the world’” and that this “requires taking into account social ecology or the need to integrate environmental policy with the daily needs of tribal and other marginalized peoples” in cases such as the building of large dams along the Narmada River.⁴⁷¹ As we know from the outcomes of court cases pertaining to the same river, numerous dams were built and many thousands of villagers displaced, though. No notice seems to have been taken of anything like *dharmā*, although the balance between different interests was described in some detail by the Court.⁴⁷²

It seems as if *dharmā* can be referred to in court decisions today, though examples are hard to find. In *K.M. Chinnappa v. Union of India & ors.* (2002), which concerned mining in reserved forest land, the Supreme Court made lengthy *obiter dicta* regarding how environmental law is an instrument to protect and improve the environment, and has to be subject to constant development “[i]n view of the enormous challenges thrown by the industrial revolution”. It was explained that in India, the historical situation is pertinent:

“Since time immemorial, natural objects like rivers enjoyed a high position in the life of the society. They were considered as Goddesses having not only the purifying capacity but also *self-purifying ability*. Fouling of the water of a river was considered a sin and it attracted punishments of different grades which included, penance, outcasting, fine, *etc.*... [E]nvironmental pollution was controlled rigidly in the ancient time. It was not an affair limited to an individual or individuals but the society as a whole accepted its duty to protect the environment. The ‘*dharmā*’ of environment was to sustain and ensure progress and welfare of all. The inner urge of the individuals to follow the *set norms* of the society, motivated them to allow the natural objects to remain in the natural state. Apart from this motivation, there was the fear of punishment. There were efforts not just to punish the culprit but to balance the eco-systems... The noteworthy development in this period was that each individual knew his *duty to protect* the environment and he tried to act accordingly” (emphasis added).⁴⁷³

We see here how Justice *Pasayat*, similarly to Abraham above, opines that *dharmā* relies on an internalised self-control – an ‘inner urge’ – to which comes a ‘fear of punishment’ from the combined efforts of the outside world. The Justice further

⁴⁶⁹ Menski 2003, p. 30.

⁴⁷⁰ Dwivedi, pp. 169, 171.

⁴⁷¹ Chapple.

⁴⁷² Cf., foremost, *Bandhua Mukti Morcha v. Union of India*, 1984 SCC (3) 161 = 1983 SCALE (2) 1151 (some aspects of which are described further in subsequent chapters).

⁴⁷³ (2003) 2 SC 724, para 25.

spoke of everyone's entitlement to welfare, and to the importance of respect for ecosystems. There are also references to *Manu* and *Rig Veda* in the *obiter*.⁴⁷⁴ The Justice possibly meant that control of the environment was an easier task in ancient times than in current because righteousness has now given way to fundamentally altered codes of behaviour.

Despite the many references to *dharmā* and various UN and other documents, the Court's decision in *Chinnappa* was to allow continued mining in the reserved forest area for a period of five years – and no balance was eventually made between environment and development.

It can also be noted that a report of the Indian Planning Commission's Expert Group on groundwater management, published in 2007, reproduces a Water Prayer from *Rig Veda*, and the way in which groundwater is depicted in *Sanskrit* literature is presented.⁴⁷⁵ No further mention of those ancient concepts is made in the actual report, though, and they seem to serve more as a poetic link to the past than as containing a meaningful proverb for the present water management challenges.

Does *dharmā* have a practical function in present India? On the topic of 'Ecological Perspectives from the Hindu Traditions', *Vasudha Narayanan* reminds the reader that the even *Dharmaśāstra* were only read and followed by *Brahmins*. Popular practice and custom had as much weight, and moral tales and other notions of *dharmā* were communicated through, e.g., epic stories, routinely retold by family or village elders.⁴⁷⁶ Clearly, an aspect that goes amiss in an urbanising, globalising society is the village elders' role as the oral transmitters of *dharmic* behaviour.

Today, Narayanan holds, some Hindu institutions cite esoteric passages on *dharmā* to raise popular awareness of contemporary environmental and social issues.⁴⁷⁷ But as environmental disaster and not least water pollution is observable in India, Narayanan explains that

"Hinduism can be a source of complacency as well. Some Hindu values may impede ecological activism... [I]n the Hindu hierarchy, *Bhu-Devi/Prithvi* (the Earth Goddess) is of less importance than *Sri/Lakshmi*, the goddess of wealth and good fortune. *Lakshmi* has traditionally had a far greater hold on people's faith and aspirations than the Earth Goddess, and the quest for wealth seems to be more intense than reverence for the earth. In a world where good fortune seems to depend on consumer spending and industrial growth, the Earth Goddess faces some very stiff competition.

⁴⁷⁴ *Ibid*, para 35, 38. The *Rig Veda* was probably composed between 1700–1100 B.C.E. and is one of the world's oldest religious texts in continued use.

⁴⁷⁵ Planning Commission 2007, p. vii, courtesy Prof R.N. *Jha* (no further reference given). Accordingly, many *Sanskrit* works "describe the interior of the earth to be full of water channels, like the veins in the human body" and they "claim that on the basis of certain plants and trees, ground water resources can be explored in the areas where surface water is not available".

⁴⁷⁶ Narayanan.

⁴⁷⁷ *Ibid*. Narayanan also reminds of how gurus like *Sathya Sai Baba* can influence millions of devotees around the world by citing from texts on *dharmā*. The guru and his Trust initiated and financed a Water Supply Project in 1994 – including 750 villages without water.

There are other strands in Hindu religious traditions that have helped contribute to the current ecological crisis. One is the Hindu conviction that rivers like Ganga are so *inherently pure* that *nothing can pollute them*” (emphasis added).⁴⁷⁸

Narayanan continues by quoting *Anil Agarwal*:

“Hinduism’s primary focus lies on the self, one’s immediate family, and one’s caste niche, to the *neglect of the larger society and community*... Whereas the private sphere is carefully scripted in Hindu tradition, public life in India borders on and often descends into chaos... A Hindu may go down to the Ganges River to purify himself or herself. The next moment, the same person will flush the toilet and discharge effluent into the very same sacred river” (emphasis added).⁴⁷⁹

The conclusion we can draw from these two writers is that the self-control originally imposed by *dharmā* is seemingly directed towards other ends than preserving the environment and water resources. *Dharma* should not be dismissed as a topic of academic discussion only, but empirical studies would be needed to establish its impact.

4.2.2 The discourse on religious and spiritual values

Apart from, or maybe rather than, reasoning in terms of *dharmā*, general religious precepts seem to play an important role for many lawyers and judges. For example, (former) Justices *Ashok A. Desai* and *Kuldip Singh* express much concern and reverence for nature. Desai, in his book on environmental jurisprudence, takes a normative stance in that he prescribes a need for spiritualism and a return to Gandhian and pre-colonial, even pre-historic, principles.⁴⁸⁰ Concepts of ethics and morals are foundational for this approach, which must be characterised as detached from the modern world. Justice Singh, in the Foreword to the same book, advocates a balance between the materialistic lives that modern humans lead, and the environment. He talks in terms of ethics, religious precepts, and that water is the life-line of vegetation, which is in turn the source of human life; but also of the need for scientific understanding of the earth’s carrying capacity and the repairing cycle of the ecosystem.⁴⁸¹

Another person who has expressed his view in these terms is Advocate *M.C. Mehta*. In an interview in 1998 he was asked whether he thinks that the Hindu tradition can increase environmental awareness, he answered in the affirmative, giving the example that the worship of rivers such as the Ganges can help people to care for the natural world as sacred. This is because “we Hindus worship by our actions”, whereas the West appreciates the need for clean water but does not have the same deep feeling for rivers.⁴⁸²

⁴⁷⁸ *Ibid.*

⁴⁷⁹ A. Agarwal, p. 174.

⁴⁸⁰ A.A. Desai.

⁴⁸¹ K. Singh, pp. xv ff. The foreword was written in the year after Justice Singh retired from the Supreme Court.

⁴⁸² Gosling, pp. 148, 150f.

4.2.3 The discourse on natural *versus* positivist law

Turning to the question of legal positivism and natural law, no clear assumptions can be made here either. Few judges or scholars expressly advocate one or the other stance. Two exceptions are Justice *Markandey Katju* of the Supreme Court and Judge *P.D. Dinakaran* of the Madras High Court, who both have written on this subject. Dinakaran, in defence of natural-law theories has held that the exclusive attachment to positive law is causing the ‘rootlessness’ of modern civilisation. Law must, therefore, be seen as relative to time and place in the same manner as moral rights and wrongs are.⁴⁸³

Katju argues by pointing to how natural law can be seen as connected to revolutionary phases, when people feel oppressed by the positive law, and functions to fill gaps in positive law at later stages when society is relatively stable. In ‘the scientific era’, however, society requires precision and clarity and therefore “more and more positive, man-made laws”.⁴⁸⁴ The ‘revival’ of natural law as a reaction to the atrocities of the Nazi regime was only a temporary, emotional reaction, Katju holds, but it collapsed because it had no scientific basis. He advocates instead a ‘dynamic positivism’ to guide society: “the law which utilizes the scientific discoveries of the laws of nature and the laws of social development for the forward movement of man in history”.⁴⁸⁵

The perception of many academic scholars favours regarding water (in general) as a natural right. *Chhatrapati Singh* was one of these, maintaining the elemental difference between the ‘rights of the people’ and the ‘rights of the state’ and that the latter has unlawfully appropriated the rights of the former.⁴⁸⁶ In discussing natural rights, C. Singh held that

“[t]he fact that rights over water has existed in all ancient and modern legal times, including in the traditional *dharmasastras* and Islamic laws, and also the fact that they still continue to exist as customary rights in many contemporary societies, clearly eliminates water rights as a creation of modern state made laws”.⁴⁸⁷

The approach put forward can be characterised as anti-positivist: regulations enacted at federal or state level (and by the Crown in colonial times) are not considered legitimate when clashing with the ‘rights of the people’. However, the argument on natural rights was not advanced in detail, and it is therefore difficult to interpret what Singh meant. He also did not discuss whether or not all individuals in the Indian society are equally entitled to claim the same kind of water rights. The generalisations about ‘water’ being a natural right are further at odds with how groundwater is traditionally perceived. This will be dealt with in Chapter IX.

⁴⁸³ Dinakaran.

⁴⁸⁴ Katju 2000, p. 60.

⁴⁸⁵ *Ibid*, p. 59, cf. Katju 2001a.

⁴⁸⁶ C. Singh 1991 and 1992, with similar summaries on pp. 42 and 25, respectively. In these books the bases of the people’s rights are alternately referred to as natural/human/customary/riparian rights.

⁴⁸⁷ C. Singh 1991, p. 22.

A question that very few scholars have touched upon is how the Indian Constitution relates to natural law/rights. Whereas the natural-rights theory was important in shaping the contemporary text of the American Constitution,⁴⁸⁸ it has been rejected that it also influenced the Indian Constitution's provisions on fundamental rights (described below). *T.K. Tope* contends that

“the framers of the Indian Constitution did not accept the theory of natural law for the purpose of *incorporating* fundamental rights in the Constitution. Hence, it would be incorrect to describe the fundamental rights inscribed in our Constitution as natural rights or inalienable rights. They are *political and civil* rights guaranteed *by the Constitution*” (emphasis added).⁴⁸⁹

Nevertheless, it has been declared in several Supreme Court cases that the fundamental rights are natural rights embodied in the Constitution itself, for instance as here by Chief Justice *Bhagwati* in landmark case *Maneka Gandhi v. Union of India* (hereafter: *Maneka Gandhi*):

“The natural law rights were meant to be converted into our constitutionally recognised fundamental rights so that they are to be found within it and not outside it. To take a contrary view would involve a conflict between natural law and our constitutional law. A divorce between natural law and our constitutional law would be disastrous. It would defeat one of the basic purposes of our Constitution”.⁴⁹⁰

Another scholar who has been against interpreting natural rights into the Indian Constitution is *Durga Das Basu*. The American Constitution's Ninth Amendment (which is part of the Bill of Rights) expresses that “the enumeration in the Constitution, of *certain* rights, shall not be construed to deny or disparage *others retained* by the people” (emphasis added).⁴⁹¹ Commenting upon this provision, *Basu* holds that it

“rests on the theory of *inalienable natural rights* which can by no means be lost to the individual in a free society; the guarantee of *some of them* in the written Constitution cannot, therefore, render obsolete any right which inhered in the individual even before the Constitution” (emphasis added).⁴⁹²

In comparison, though, *Basu* explains that there is no such ‘unenumerated right’ under the Indian Constitution. No ‘other’ (category of) right would thus be declarable as valid – at least not with reference to some ‘natural right’ or to the ‘spirit of the Constitution’ – when the Supreme Court engages in constitutional interpre-

⁴⁸⁸ The American Declaration of Rights and Duties of Man, 1948, incorporates natural rights as the basis of human equality.

⁴⁸⁹ *Tope* 1992, pp. 38f.

⁴⁹⁰ *Maneka Gandhi v. Union of India* (1978) 1 SCC 248. Cf. *I.C. Golaknath v. State of Punjab* AIR 1967 SC 1643; *Kesevananda Bharati v. State of Kerala* (1973) 4 SCC 225 = AIR 1973 SC 1461.

⁴⁹¹ This Amendment is to be interpreted as barring denial of unenumerated rights, if such a denial is based on [reference to] the enumerated rights in the Constitution, cf. *United Public Workers v. Mitchell*, 330 U.S. 75 (1947).

⁴⁹² *Basu* 2001, p. 83.

tation.⁴⁹³ However, it seems as if the expansion of the rights of individuals as ‘enshrined under’ the Constitution proves him wrong. One of the fundamental rights is Art 21 which provides that “*no person shall be deprived of his life or personal liberty except according to procedure established by law*” (emphasis added).⁴⁹⁴ The provision is negatively formulated and addressed to the executive with the intention of setting a limit to its interference with citizens. It thus regulates how the state must refrain from applying its rights and powers against the people. In the case *A.K. Gopalan v. State of Madras*, adjudged in 1950 and the very first involving judicial review, the Court took a highly positivist stance in the interpretation of the provision. This approach was employed in cases where individual liberty was at stake, in order to give the highest protection to individual’s liberty claims.⁴⁹⁵ A reference to ‘the spirit’ of the Constitution was given, but in another sense than Basu meant:

“[W]e cannot declare a *limitation* under the notion of having discovered something in *the spirit* of the Constitution which is not even *mentioned* in the instrument” (emphasis added).⁴⁹⁶

The Judge gave a clear expression to the black-letter tradition prevalent at the time, and thereby upheld the protection rendered *against* authorities’ intrusion.

Later, though, several Justices came to express recognition of natural rights in interpreting Art 21.⁴⁹⁷ When deciding *Maneka Gandhi* in 1978, Chief Justice Bhagwati imported the common-law concept of ‘due process’,⁴⁹⁸ and the concept of ‘natural justice’ (which is closely related to the theory of natural law) was discussed in detail. Criteria such as ‘reasonableness’, ‘just’, and ‘anti-arbitrariness’ were employed to test the validity of procedural laws introduced by the legislature to deprive a person of her life or personal liberty.

Further, Art 21 was interpreted in this case with the effect of *expanding* its meaning. Accordingly, a *positive* right to life was developed from the negative wording of the provision. Based on this, Tope delivers a slightly different view than Basu’s, holding that trends in Supreme Court judgments indicate that ‘the theory of unenumerated rights’ had been introduced into the Indian system.⁴⁹⁹ This meant, to begin with, that by interpreting Art 21 liberally, it has come to provide a ‘right to life’, and include the ‘right to *livelihood*’ in efforts to protect human health and the environment. Several ‘liberties’ previously unarticulated and only implied by Art 21 have been recognised by the Court. As we will see, this development eventually led to

⁴⁹³ Cf. *ibid*, and Basu 1973, p. 91.

⁴⁹⁴ This fundamental right applies to a wider group than India’s citizens only, just as human rights do.

⁴⁹⁵ Sathé, pp. 103f.

⁴⁹⁶ *A.K. Gopalan v State of Madras* AIR 1950 SC 27.

⁴⁹⁷ As is noted below, the case was decided after the State of Emergency that was declared by *Indira Gandhi* between 1975-77.

⁴⁹⁸ The concept exists also in the Swedish legal system, then known as ‘*rättsäkerhet*’.

⁴⁹⁹ Tope 1992, pp. 40, 274.

water being pronounced part of the ‘right to life’, and the state’s responsibilities in terms of taking action have been laid down based on this right.

Though this and some following extensions of constitutional rights were coloured by a natural law-approach rather than a positivistic, the features of Indian law cannot be characterised as consistent in this regard. For instance, if fundamental rights are equal to, and supposed to lay down, natural, inalienable rights, it is remarkable that the constitutional right to *property* is no longer a ‘fundamental’ right in India – it has been transferred to another part of the Constitution, with the effect that the remedies for enforcement of this right are more limited.⁵⁰⁰ After *Maneka Gandhi*, Tope commented that

“the activist Judges are developing a new concept of ‘natural law’ *distinct from the concept of natural law associated with rights to property*” (emphasis added).⁵⁰¹

Tope later submitted that in the future, the Supreme Court might interpret the right to property with the application of the theory of natural law, the concept of due process and the theory of unenumerated rights.⁵⁰² If Tope is actually correct in this reasoning, it may have an impact on how a case on property rights in groundwater is decided.

4.2.4 Summing up

That law is always culture-specific has been pointed out by many scholars in the field of legal pluralism and socio-legal studies. One of these, Menski, maintains that especially for lawyers it is necessary to

“attempt at understanding how the ancient cultural – and thus predominantly socio-religious – traditions of South Asia still manifest themselves today as centrally important legal ‘bricks’ for the reconstruction of post-modern Hindu law and the definition of post-modern Indian laws”.⁵⁰³

At the same time, Menski, ‘the comparative lawyer’, feels compelled to deny the role of classical *Sanskrit* texts as a direct legal source, but that is partly because *dharmā* and its related concepts are much wider than ‘law’ in its narrow bureaucratic sense.⁵⁰⁴ These concepts neither can nor should be understood in a positivistic sense.

It remains unclear how far the *dharmic* system and religious values are influential in contemporary India, and whether we need to ‘understand’ these components in order to discuss the role of law in context. Discernible from the case law that we will study closer in Chapter VIII is that, rather than explicit references to ancient

⁵⁰⁰ Art 300A was introduced by the 44th Amendment in 1978. It states that no person shall be deprived of his property save by authority of law, but a person who finds himself deprived can no longer move the Supreme Court by invoking Art 32 or by Public Interest Litigation (more on which below). Neither can the ‘authority of law’ be challenged as unreasonable and arbitrary.

⁵⁰¹ Tope 1988.

⁵⁰² Tope 1992, p. 274.

⁵⁰³ Menski 2004, p. 3.

⁵⁰⁴ *Ibid.*

principles, many judges enunciate strong values and show solidarity with people's dependence on natural resources. This is not least true with regard to weaker sections of society, among whom legal illiteracy is widely spread.⁵⁰⁵

4.3 *Fundamental rights and duties under the Constitution*

The Indian Constitution contains a list of the human rights in Art 12-35, Part III (the fundamental rights). These include the right to equality in Art 14; the prohibition of discrimination on grounds of religion, race, caste, sex or place of birth in Art 15; the right of free speech and expression in Art 19(1)(a); the mentioned right to individual liberty in Art 21; the right to religious freedom in Art 25; and the rights to constitutional remedies in Art 32-35.

Efforts to create a modern yet attuned constitution began after Independence from the British, and the Constitution came into force in 1950. Building upon the (British) Government of India Act 1935 and principles of the uncodified constitution of the U.K.,⁵⁰⁶ it is also influenced by principles found in the American, Canadian, Australian and Irish constitutions. The American Bill of Rights and the French Declaration of 1789, with their ideals of liberty, equality and fraternity, have also left clear marks on the part on Fundamental Rights enshrined in the Constitution. Similarly, the part on 'fundamental duties' is in line with the Universal Declaration of Human Rights.⁵⁰⁷ The Indian Constitution now resembles the British but there are important differences. Thus the Indian Constitution itself is supreme, and Parliament is subject to it. This means that Indian courts can adjudicate on the constitutionality of any statute.

Katju has commented upon Indian human rights in comparison with their sources of inspiration, writing in a harsh manner that

“these rights were not a result of such prolonged social and political struggles and social churning as happened in the Western countries. These rights were imported from the West by our modern-minded Constitution-makers and then *transplanted from the above* on our backward, semi-feudal society. The result is that while these rights *exist in the statute-book*, many of them are *ignored* in many parts of our country, and that is because there was no long-drawn social struggle and social churning in our country for obtaining these rights” (emphasis added).⁵⁰⁸

⁵⁰⁵ Cf. *Bandhua Mukti Morcha v. Union of India* 1984 SCC (3) 161 = 1983 SCALE (2) 1151.

⁵⁰⁶ The U.K. has a constitution which is not found in a single document but in several different sources – statutes, case law and international treaties.

⁵⁰⁷ Abraham, p. 14; Das Basu 2001, pp. 79f.

⁵⁰⁸ Katju 2003. He gives numerous examples, for instance that “[n]o doubt, Article 15(1) of the Constitution prohibits the *State* from discriminating against women, but it does not prohibit the *society* from doing so, and in fact such discrimination is widespread, beginning from the very birth of a child... In recent years crimes against women have shot up, our courts are flooded with cases relating to dowry deaths, rapes, wife-beating etc. and all this shows how backward our society still is” (emphasis in original).

Katju continues by describing how “[u]nderdeveloped countries like India are passing through a transitional age, between feudal, agricultural society and modern industrial society”. The history of England and France shows what turmoil European countries have gone through from the sixteenth up till the nineteenth century before “modern society emerged”, and India must undergo this transition as fast as possible. One way is for the judiciary to help in this process.⁵⁰⁹

As mentioned, the procedure through which a person is deprived of his or her life or personal liberty must be reasonable, fair, and just (*Maneka Gandhi*). Since the end of the 1970s, the Supreme Court has strengthened Art 21. Two cases where the positive right to a clean and healthy environment was laid down are *Virender Gaur v. State of Haryana*,⁵¹⁰ and *A.P. Pollution Control Board II v. Prof. M.V. Nayudu* from 1995 and 2001, respectively.⁵¹¹ In the *Virender Gaur* case, which concerns town planning, the Court observed that

“there is a constitutional imperative on the State Government and the municipalities, not only to ensure and safeguard proper environment but also an imperative duty to *take adequate measures* to promote, protect and improve both the man-made and the natural environment” (emphasis added).⁵¹²

In *A.P. Pollution Control Board II* the Court observed that – following India’s example⁵¹³ – there is building up, in various countries, a concept that the rights to a healthy environment and to sustainable development are fundamental human rights, implicit in the right to life. With reference to the International Covenant on Economic, Social and Cultural Rights and the Rio Declaration,⁵¹⁴ today’s emerging jurisprudence and collective, environmental rights as a ‘third generation’ of rights were discussed in the judgment, as well as the principle of ‘Inter-Generational Equity’.

A constitutional mandate to protect and improve the environment follows from the Directive Principles of State Policy in Arts 47 and 48A, inserted by the Forty-Second Amendment Act, 1976. The provisions are not enforceable by a court but should be read together with Art 21, Art 14 on denial of equality before the law, and Art 51A(g) on duty to protect the environment. Their function is to guide the government, as policy prescriptions:

“Duty of the State to raise the level of nutrition and the standard of living and to improve public health. - The State shall regard the raising of the level of

⁵⁰⁹ *Ibid.*

⁵¹⁰ 1995 (2) SCC 577. The Supreme Court here held that the right to live a life in dignity “encompasses within its ambit the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation, without which life cannot be enjoyed... Environmental, ecological, air, water pollution, etc. should be regarded as violation of Art 21”, pp. 580f.

⁵¹¹ (2001) 2 SCC 62.

⁵¹² *Ibid.*

⁵¹³ The Court here referred to *Bandhua Mukti Morcha*.

⁵¹⁴ UNCED 1992a.

nutrition and the standard of living of its people and the improvement of public health as among its primary duties” (Art 47).

“Protection and improvement of environment and safeguarding of forests and wildlife. - The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country” (Art 48A).

When introduced in 1976, it was as a result of the involvement of the then Prime Minister *Indira Gandhi* and Houses of Parliament in the issues of environment protection and development in the wake of the 1972 UN conference in Stockholm.⁵¹⁵ In addition, Art 51A(g) contains the Fundamental Duties of the Constitution:

“Fundamental duties. - It shall be the duty of every citizen of India - ... (g) to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures” (Art 51A).⁵¹⁶

The list in Art 51A is not exhaustive, meaning that groundwater should probably be covered as well as surface water in lakes and rivers. Art 51A is also interesting from the Hohfeldian point of view. As a citizen, one’s duties in relation to the environment are expressed in the Constitution whereas the rights are only indirectly pronounced, mostly as negative rights and as obligations on the State – though on behalf of its citizens.

Together with Art 21, these provisions show proof of environmental values being recognised at constitutional level. They thereby satisfy the requirements for a substantive right to a clean environment and for protection of natural resources to sustain life. In addition, procedural rights have been developed to further benefit the individual and the general public in the exercise of these rights, as will be discussed shortly. Again, this is due to the progressive development that has taken place in the courts, denoted as judicial activism. This is what we will look at next.

4.4 Judicial activism and Public Interest Litigation

4.4.1 Introduction

The Indian context may at first sight appear to resemble that of other common-law systems, but in fact subtle differences and quite unique characteristics underlie the structure and content of the legal development. Not only has specific legislation on environmental protection been enacted since the mid-1970s, but a new fundamental right to a clean and healthy environment has also been virtually created from what the Constitution stipulates.⁵¹⁷ Apart from this right, an obligation on the com-

⁵¹⁵ Abraham, pp. 21f; UN Conference of the Human Environment, 1972.

⁵¹⁶ Although Art 51A is not enforceable in court and not punishable as such, it was referred to in *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh* AIR 1987 SC 359 = 1986 (Supp.) SCC 517 for issuing an oral order stopping quarrying operations. It was reminded – though this must be interpreted as *obiter dictum* – that preservation of the environment and keeping the ecological balance unaffected is a task which not only Governments but also every citizen must undertake as a social obligation.

⁵¹⁷ Abraham, p. 1.

petent government agencies to enforce environmental laws has been deduced from Art 21, and it has been ruled that such agencies may not plead non-availability of funds, inadequacy of staff or other insufficiencies to justify the non-performance of their obligations under environmental laws.⁵¹⁸ Several legal tools for protecting the environment have thus been adopted or developed and principles such as that the polluter has a duty to pay are repeatedly held applicable. Undoubtedly, rights are upheld by the courts while *making* the law, not merely interpreting the body of statutory regulations in force.

Abraham emphasises that one element distinguishing Indian jurisprudence from other comparable systems is that it ‘bears testimony’ to the activist role of the Indian judiciary.⁵¹⁹ It is clear that judicial creativity, or activism, has been of fundamental importance for the flexible interpretation of the fundamental rights and duties and, as noted, for the protection of people’s health as well as that of the environment. Much of this has been possible thanks to the development of *public interest litigation* (PIL), or social action litigation as some prefer to call it to show that the Indian phenomenon is different from the U.S. equivalent whence the concept originally stems.⁵²⁰ In India, PIL was initially an approach relating to human rights, but soon extended into realms of public law via judicial review of administrative action, and eventually came to shape environmental jurisprudence.⁵²¹

In short, PIL can be described as a means developed to strengthen and ease the possibility for concerned citizens to move the court without the numerous conventional and often very burdensome requirements for evidence, etc. Since it was introduced into the Indian legal system in the late 1970s,⁵²² PIL has liberalised procedural paradigms and altered the role of the judiciary. The judges of these cases take a new and more active role to make law and organise the court process, and remedial relief is often directed against government policies. The possibility of being acknowledged as a petitioner – the person with the right to seek judicial action of some sort – is also widened – an improvement in ‘access to justice’.

4.4.2 Access to justice and the judiciary’s different role

The major rationale for the development of PIL was that it renders access to justice and democratises the judicial process. Two advocates of the Supreme Court, *Ashok H. Desai* and *S. Muralidhar*, argue that in a developing country, the legal process

⁵¹⁸ Cf. *Virender Gaur v. State of Haryana* 1995 (2) SCC 577; *Indian Council for Enviro-Legal Action v. Union of India* (CRZ Notification Case) 1996 (5) SCC 281; *Dr. B.L. Wadebra v. Union of India* (Delhi Garbage Case) AIR 1996 SC 2969, p. 2976. The provision was inserted in the Constitution by the Forty-Second Amendment Act, 1976.

⁵¹⁹ Abraham, p. 2.

⁵²⁰ For the latter term, see foremost Baxi 1989. On PIL I have foremost read Sathe, Desai & Muralidhar, Abraham and Razzaque, all of whom refer to yet other writers on this subject.

⁵²¹ Cf. Abraham, p. 31.

⁵²² According to Sathe, p. 46, “even the first generation Supreme Court judges were conscious of the activist role [that] the Court was destined to play under the Constitution”, referring to the judges sworn in after Independence.

tends to intimidate the litigant, who feels alienated from and even traumatised by the system.⁵²³ The Court radically liberalised its procedures to facilitate access for the common man and to increase public participation in the judicial process – “as a means to control the other organs of government”.⁵²⁴

Of larger practical importance, though, is the fact that the traditional rules for dispute settlement in common law were fashioned for adjudication of disagreements between private parties over contracts, civil liability, property and similar issues. This was based on a couple of hypotheses: people were supposed to know the law as well as their rights; and the judicial process was supposed to be the least desirable way of settling disputes – used only when conciliation, negotiation, mediation, etc. had not worked. It was further postulated that the courts were to play a passive role, also in matters of public law.⁵²⁵

In addition, in the adversarial common-law system, the law has to be pleaded in the sense that the contending points of view are presented by each party’s counsel, and the valid precedents for or against an argument have to be submitted and distinguished in the same manner. The case also becomes framed by the pleadings of the parties. This is a crucial difference compared with the civil-law system, where there is no need for the parties to plead the law: the Court is supposed to know it (*jura novit curia*) and give the necessary aid for the resolution of the dispute.

In PILs, however, judges often choose a more active role. Both the High Court and the Supreme Court can adopt a more inquisitorial mode than in regular cases, as they are not bound by the adversarial procedure usually prescribed as a method of exposing evidence. PIL has “no winners or losers and the mindset of both lawyers and judges can be different”.⁵²⁶ Sathe writes that judges need not take a neutral position “but can examine complaints of violations of human rights, subversion of the rule of law, or disregard of environment with greater care and through a proactive inquiry”.⁵²⁷

An example of the Supreme Court’s far-reaching possibilities is that it can order a commission or expert committee to be formed to investigate and/or assess scientific data and help the court to form a *prima facie* opinion.⁵²⁸ This is of immense importance in environmental cases, where it is common that the petitioner lacks information and has limited access to relevant data. This also differs from the traditional procedure, where it is the petitioner’s responsibility to prove what is submitted and state all the facts of law. One expert body that has been appointed to submit reports at many instances is the National Environmental Engineering Research Institute (NEERI).

⁵²³ Desai & Muralidhar, p. 3 and footnote 19.

⁵²⁴ Sathe, p. 195.

⁵²⁵ *Ibid.*

⁵²⁶ Desai & Muralidhar, p. 6.

⁵²⁷ Sathe, p. 207.

⁵²⁸ Razzaque, pp. 186ff; Desai & Muralidhar, p. 5; Sathe, p. 207. Order XXVI of the Civil Procedure Code, 1908, as well as Art 32 read together with Art 142(2) of the Constitution provide for this.

What brought about this procedural relaxation? Tope has written that in the sphere of political as well as economic and social rights, the activist judges of the Supreme Court evolved a new Indian jurisprudence, described as ‘judicial law-making’. This creative attitude was necessary for the interpretation of a dynamic constitution such as that of India.⁵²⁹ Sathe holds that the situation changed with a transition in India from a *laissez-faire* state to one subscribing to values of welfare, and in line with the Indian courts’ undertaking of the function of judicial review. In judicial review, courts are to prevent illegalities on the part of the government and protect the liberty of the individual. Hence,

“[t]he Supreme Court of India has been evolving its own paradigm of public law adjudication by making a number of innovations quite unorthodox in traditional legal theory. The incorporation of a bill of rights in the Constitution and the vesting of special responsibility for protecting the rights on the courts *must have inspired* the courts to be less technical and more informal” (emphasis added).⁵³⁰

One ‘innovation’ that has been highly relevant regarding environmental and water-related questions is that the normally strict rules on standing (*locus standi*) were gradually relaxed. This has meant that people previously unable to show that they were adversely affected or that their own rights were violated could also move the court. Moreover, public-spirited individuals and NGOs could further group interests, especially on behalf of the poor and the (legally) illiterate.⁵³¹

As seen, several commentators emphasise PIL and judicial activism as unique for India. Indeed, the country’s whole legal system and current positions of various rights and obligations would be completely different and deemed less successful had not the PIL phenomenon altered the common-law tradition. What is interesting here is that the growth of PIL in India illustrates how courts can be an arena for progressive development, parallel to – and sometimes to a higher degree than – NGOs/civil society and ordinary interest groups.

Regarding access to justice and the active judiciary, one should bear in mind that actual persons are devoting themselves to achieving results. Tope mentions some of these, describing their attitude as influenced by radicalism and insurgency. He quotes *D.P. Madon*, a former Justice of the Supreme Court, as saying that “[a] Judge who denies to himself judicial activism, denies to himself the role of a judge. Nature abhors a vacuum. Take away judicial activism and tyranny will step in to fill the vacant sphere”.⁵³²

Certain key players have been involved in driving and deciding cases on matters such as the protection of water and other natural resources, and people’s access to these. Advocate M.C. Mehta is one whose importance cannot be overestimated. Further, *Shyam Divan* wrote in 2002 that not long ago, “there was a phenomenon called Justice Kuldip Singh, who blazed across the front pages of newspapers: shut-

⁵²⁹ Tope 1988.

⁵³⁰ Sathe, pp. 196f.

⁵³¹ *Ibid*, pp. 201ff.

⁵³² Tope 1988.

ting down polluters near the Ganga and the Taj, preventing construction along the coast, and restricting vehicular emissions in Delhi”.⁵³³ Singh was involved in a number of precedents in the middle of the 1990s, but retired from service in 1997. Others have proved equally invaluable to the cause of environmental justice, access to water, etc. However, this also proves the importance of individuals who function as driving forces – and how little happens in the absence of such people. For instance, *Kuldip Nayar* pointed out already in 1999 that “it appears that several of Kuldip Singh’s judgments are being undone”.⁵³⁴ Judgments that are perceived as too progressive or which go against powerful interests are likely to be left unenforced or overruled later on. The matter of corruption in the judiciary is, of course, also a problem difficult to pinpoint but very often referred to in the debate and among the general public. It is everyday reality and a contributing reason why certain advocates and judges decisively counteract the bad reputation which the judicature by and large has (and which appears in how the word ‘lawyer’ is often pronounced as ‘liar’).

4.4.3 Directions issued by the Court

The Supreme Court has the power to issue directions, orders, or writs under Art 32(2), for the enforcement of any of the fundamental rights conferred by the Constitution. This provides the Court with the necessary means to make the abstract declarations of fundamental rights effective: the rights are thus not only tested in court, but can be vindicated. Similarly, duties of the public authorities can be enforced: the executive as well as the legislature can be compelled to obedience. A procedure brought under this provision is described as a ‘constitutional remedy’, and the right to bring such a proceeding before the Supreme Court is itself a fundamental right (Art 32(1)). In a PIL, this right can be invoked by the aggrieved public; the ‘right to be heard’ is thus widened. The High Courts have the same, and even wider, jurisdiction under Art 226. This provision is applicable not only for the redress of fundamental rights; but it renders no guarantee of being heard. In short, the Supreme Court and the High Courts have concurrent jurisdictions in regard to enforcement of fundamental rights.⁵³⁵

What Art 32(1) means for individuals was expressed in *Subhash Kumar v. State of Bihar* (hereafter: Subhash Kumar):

“If anything endangers or impairs that quality of life in derogation of laws, a citizen has the right to have recourse to Article 32 of the Constitution”.⁵³⁶

The fact that the courts can issue directions to, e.g., control pollution and against impairment of the quality of life means not only that there is a material right im-

⁵³³ Divan.

⁵³⁴ Nayar. The clearest evidence should be the way in which the decision in *Jagannath v. Union of India* (1997) 2 SCC 87 = AIR 1997 SC 811 was stayed by a Bench as soon as Singh had retired, Divan & Rosencranz, p. 495.

⁵³⁵ Basu 2001, pp. 125ff, 312; Divan & Rosencranz p. 129.

⁵³⁶ (1991) 1 SCC 598, para 7.

plied in Art 21 – it also confers a procedural right for citizens to move the Supreme Court. Correspondingly, the Court pronounced in *Bandhua Mukti Morcha v. Union of India*, 1983 (hereafter: *Bandhua Mukti Morcha*), that the state is under a constitutional obligation to see that there is no violation of fundamental rights, particularly in regard to the weaker sections of the community that are unable to wage a legal battle against a strong and powerful opponent.⁵³⁷

Muralidhar explains that the enforcement of a court order depends largely on the nature of the judgment. Where there are no mandatory directions but only a declaration, the wait for further action can be long. For instance, the declaration on the state's constitutional obligation in *Bandhua Mukti Morcha* as cited above is legally binding but depends on acceptance by the state and its authorities under Art 141 and 144 for its implementation. Mandatory orders, on the other hand, can spell out a plan of action as well as a time schedule within which compliance with the order is expected. In the case cited, the Court also issued a series of directions for compliance by the state authorities.⁵³⁸

4.4.4 The Judiciary, the Legislature and the Executive

No strict doctrine of separation of powers applies under the Indian Constitution but a traditional system of checks and balances is envisaged, according to which the judiciary enforces the law, and the executive and the legislature have policy-making and implementation as their exclusive, respective domains.⁵³⁹ The judges' philosophy was once possibly that of judicial restraint towards the legislature, which was "supposed to be a popular body consisting of the representatives chosen by the people through a free and fair election".⁵⁴⁰ If most of the initial PILs were matters of human rights, a shift to issues of 'good governance' and public accountability, and towards prevention of government lawlessness, has been visible since. Instances of corruption ('scams', bribes, 'speed money', irregular exercise of discretion, etc.) and sustenance of the rule of law have been subject to review.⁵⁴¹ Frustration is often pronounced, such as when the Court has remarked that "[w]e have our doubts whether the above quoted Government order is being enforced by the... Government";⁵⁴² and expressed regret that "the authorities responsible for the implementation of various statutory provisions are wholly remiss in the performance of their duties under the said provisions";⁵⁴³ noted that despite several Court decisions, "the required attention does not appear to have been paid by the authorities concerned to take the steps necessary for the discharge of duty imposed on the

⁵³⁷ 1984 SCC (3) 161 = 1983 SCALE (2) 1151.

⁵³⁸ Muralidhar, p. 3.

⁵³⁹ Desai & Muralidhar, p. 12; *Fertilizer Corporation Kamgar Union v. Union of India* (1981) 1 SCC 568, p. 584.

⁵⁴⁰ Sathe, p. 46, drawing from reflection on *State of Madras v. V.G. Row* AIR 1952 SC 196.

⁵⁴¹ Sathe, p 219; Desai & Muralidhar, p. 11.

⁵⁴² *Vellore Citizens' Welfare Forum v. Union of India*, para 21.

⁵⁴³ *S. Jagannath v. Union of India* AIR 1997 SC 811, para 47.

State... Any further delay in the performance of duty by the Central Government cannot, therefore, be permitted”.⁵⁴⁴

In addition, a large proportion of the PILs that concern environmental questions have been cases against state inaction or wrong action. The courts have here been engaged in making law – filling gaps and ‘legislative vacuums’ – as well as laying down new policy; but also “prodding the government into *implementing* environmentally safe measures in order to curb pollution” (emphasis added).⁵⁴⁵ The Supreme Court is therefore seen as an institution that formulates policy which the state must follow.⁵⁴⁶

The orientation of a PIL is prospective, and sometimes implies continuing judicial involvement in supervising the implementation of the order even after issuing it, thus intervening in actions taken by the executive offices. Many court decisions on water-related questions and disputes are more of the kind that directs the competent authorities in their tasks. This was seen in *Indian Council for Enviro-Legal Action v. Union of India* (the Bichhri case), concerning a chemical industry that had discharged, among other things, untreated toxic sludge, rendering some seventy wells used by about 10,000 residents useless. The regulatory agencies had not fulfilled their tasks of mitigating the environmental damage.⁵⁴⁷ The scope of the applicable legislation – the Environment (Protection) Act, 1986 – was thus examined by the Court in order to decide whether remedial measures could be directed:

“Section 5 clothes the Central Government (or its delegate) with the power to issue directions for achieving the objects of the Act. Read with the wide definition of ‘environment’ in Section 2(a), Sections 3 and 5 clothe the central Government with all such powers as are ‘necessary or expedient for the purpose of protecting and improving the quality of the environment’.

The Central Government is empowered to take all measures and issue all such directions as are called for the above purpose. In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilize the amount so recovered for carrying out remedial measures. *This Court can certainly give directions to the Central Government/its delegate to take all such measures, if in a given case this Court finds that such directions are warranted*” (emphasis added).⁵⁴⁸

Hence the mere fact that the Central Government has rights and responsibilities to act under a certain statutory act does not prevent the Court from issuing its own, concrete directions when it perceives this as necessary.

Another result of PILs is that the courts order that new authorities or bodies should be set up. Thus the Supreme Court has several times suggested that envi-

⁵⁴⁴ *M.C. Mehta v. Union of India* (1998) 9 SCC 589, p. 590.

⁵⁴⁵ Desai & Muralidhar, p. 11.

⁵⁴⁶ *Ibid*, p. 1.

⁵⁴⁷ (1996) 3 SCC 212 AIR 1996 SC 1446; cf. Divan & Rosencranz, p. 74.

⁵⁴⁸ The *Bichhri* case (1996) 3 SCC 212 AIR 1996 SC 1446, p. 1464.

ronmental courts be set up on a regional basis.⁵⁴⁹ In *Vellore Citizens' Welfare Forum v. Union of India* (hereafter: *Vellore Citizens'*) it was noted that the main purpose of the Environment (Protection) Act was to create competent authorities with the purpose of controlling pollution and protecting the environment. Ten years after the Act had come into force, no such authority had been instituted by the Central Government, with the effect that the work required to be done by such an authority "is being done by this court and other courts of this country". The following direction was hence given:

"The Central Government *shall constitute an authority* under Section 3(3) of the Environment (Protection) Act, 1986 and shall confer on the said authority all the powers necessary to deal with the situation created by the tanneries and other polluting industries... The Authority shall be headed by a retired judge of the High Court and it may have other members – preferably with expertise in the field of pollution control and environment protection – to be appointed by the Central Government. The Central Government shall confer on the said authority the powers to issue directions under Section 5 of the Environment Act and for taking measures with respect to the matters referred to it" (emphasis added).⁵⁵⁰

As a consequence of the Court's order in *M.C. Mehta v. Union of India* ('the groundwater case'), the Central Ground Water Authority (CGWA) was constituted under Sec 3(3) of the Environment (Protection) Act.⁵⁵¹

In *Vellore Citizens'*, the Chief Justice of the Madras High Court was furthermore requested to constitute a special 'Green Bench' to deal with this case and other environmental matters.⁵⁵² In *S.K. Garg v. State*, Judge Katju directed the government of Uttar Pradesh to set up the Allahabad Water Committee, with a certain chairman and eleven named members, to solve the problem of providing citizens with their rightful water. This Committee, it was further directed, "should consider and decide not only the immediate remedial steps which can be taken in this connection but also the long term remedial steps".⁵⁵³

According to Sathe, the strict positivistic distinction between that part of the court's decision which is the binding *ratio decidendi* and the non-binding *obiter dicta* "has become inconsequential in respect of constitutional law litigation in general and PIL in particular". This is seemingly because law-making via issuing of directions is "overtly legislative and... *considered binding* not only by the Court and the subordinate courts but also by the governments and the social action groups" (em-

⁵⁴⁹ *M.C. Mehta v. Union of India* AIR 1987 SC 965; the *Bibbri* case.

⁵⁵⁰ *Vellore Citizens' Welfare Forum v. Union of India* AIR 1996 SC 2715, para 24.1. A similar order was later issued in *Jagannath v. Union of India* (the Shrimp Culture case).

⁵⁵¹ *M.C. Mehta v. Union of India* 1997 (11) SCC 312. The function of the Authority is to assess, regulate and control the development and management of India's groundwater resources. The main task has been the listing of 839 'over-exploited' and 226 'critical assessment units' and the issuing of prohibitions to construct new groundwater structures in the notified areas. The Authority complements the Central Ground Water Board (CGWB) which is still in existence.

⁵⁵² *Ibid*, para 25.

⁵⁵³ AIR 1999 All. 41, para 9-10.

phasis added).⁵⁵⁴ The effect of the Court's decisions has thus widened much beyond the doctrine of *stare decisis*.

From the above it is easy to agree when the Indian Supreme Court is described as a political institution with a form of power, both in theory and in practice, unknown elsewhere.⁵⁵⁵ Its judicial activism and PIL have, however, also been criticised.

4.4.5 Critique of PIL

PIL has been much criticised for being everything from arbitrary to populist.⁵⁵⁶ For instance, Sathe holds that

“it is populism when doctrinal effervescence goes beyond the institutional capacity of the judiciary to translate the doctrine into reality and it [is] excessivism when a court undertakes responsibilities that should normally be discharged by other co-ordinate organs of the government”.⁵⁵⁷

The line between ‘activism’ and something else is, in other words, a matter of fine balance. A tendency among the courts in PIL cases is that they interfere and act unpredictably, “with insufficient respect for the written law”.⁵⁵⁸ Several commentators also note that “decisions tend to be based upon the personal predilections of judges”,⁵⁵⁹ and that “[w]e see unequal application of the rules of the *locus standi* and justiciability depending upon the personal inclinations of judges or the circumstances in which the petitions are heard”.⁵⁶⁰ Certainty of both substance and direction “for the next step forward in the further progress of the law” is nevertheless indispensable, as was held by the judge in one of the first PILs.⁵⁶¹

Another problem with this system of judge-made law is that officials might await interpretation, or simply avoid complying with requirements until the court issues directions. The parties to a PIL also often return to the court for fresh directions and orders. Similarly, Indian governments appear to have lost confidence to enforce any law in the absence of a judicial decision.⁵⁶² As of recently, PIL seems to be used for sorting out both political controversies and private grievances more than dealing with genuine human rights issues, and some decisions are of little practical use as they cannot be implemented effectively.⁵⁶³

⁵⁵⁴ Sathe, p. 240.

⁵⁵⁵ Gadbois, pp. 250f., cited in Abraham, p. 33.

⁵⁵⁶ Cf. Abraham, pp. 32f; Desai & Muralidhar, pp. 9, 12ff; Sathe, pp. lxxiv-lxxvii, 246ff., with references.

⁵⁵⁷ Sathe, p. 100.

⁵⁵⁸ Nayar.

⁵⁵⁹ Nayar; cf. Desai & Muralidhar, p. 15.

⁵⁶⁰ Sathe, p. 223.

⁵⁶¹ *Bandhua Mukti Morcha v. Union of India* 1984 SCC (3) 161 = 1983 SCALE (2) 1151, p. 234.

⁵⁶² Sathe, p. lxxv.

⁵⁶³ Desai & Muralidhar, p. 15; Sathe, pp. lxxiv-lxxv. For instance, bans on smoking in public can be implemented only with great difficulty.

4.4.6 Summing up

PIL represents a new paradigm of liberalised public law process based on an active judiciary acting as a legislator as well as an institution to guarantee human rights and access to justice. For interpreting and protecting the right to water, the Indian PIL has been both essential and unparalleled.

We now look at some more concrete examples of environmental jurisprudence – principles of importance also in regard to water – and how these made their way into the Indian context.

4.5 *Borrowing and developing principles*

4.5.1 ‘Sustainable development’, etc.

The above-mentioned PIL and Supreme Court decision in *Vellore Citizens’* exemplifies how rules and concepts can be imported.⁵⁶⁴ The case deals with hazardous effluents discharged without proper treatment from numerous tanneries, rendering both groundwater and surface water in 59 villages unfit for drinking. Although the authorised Central Pollution Control Board had stipulated standards, these were not met; neither were standards laid down in the Water (Prevention and Control of Pollution) Act or the Environment (Protection) Act. Moreover, several previous Court and Government orders on this matter had been left unimplemented. The problem was hence not primarily one of lack of rules to be applied. Nonetheless, the case is referred to for its precedential value, and shows how Indian law has progressively been expanded and filled with new meaning. This is because the Court established that the traditional view of “development and ecology [as] opposed to each other, is no longer acceptable. ‘*Sustainable Development*’ is the answer” (emphasis added).⁵⁶⁵

Some formulations in the case deserve to be discussed, though. The Court in its reasoning mentioned the concept of sustainable development as an acknowledged part of international law, “though [its] salient features have yet to be finalised by the International law Jurists”.⁵⁶⁶ It is unclear why the Supreme Court of India thought it a task for international jurists to specify and ‘finalise’ the substantial content of the concept when, for instance, the intention of the Rio Declaration is that state governments should implement and integrate its principles into their national legal systems.⁵⁶⁷

⁵⁶⁴ *Vellore Citizens’ Welfare Forum v. Union of India* AIR 1996 SC 2715.

⁵⁶⁵ *Ibid*, para 10.

⁵⁶⁶ *Ibid*.

⁵⁶⁷ *Patricia Birnie & Alan Boyle*, p. 46, rightly point out that “[s]ustainable development requires political action if it is to be implemented, and it may be easier to deliver in certain systems than in others”.

It is also unclear why the Court concluded that sustainable development is ‘customary law’. ‘Customary law’ (or ‘customs’⁵⁶⁸) is generally accepted as a binding source of international law. There is no clear-cut definition of the term and different scholars give slightly different versions. Two conditions must be fulfilled for a legally-binding custom to prevail: that it is observed repeatedly over time by a significant number of relevant actors (the criterion of ‘state practice’); and that a sense of obligation is involved (*opinio juris*). The latter criterion can be described as a feeling of being legally obliged to behave in a certain way. The custom is thus followed by those concerned because *they consider* it to be law.⁵⁶⁹ Because the criteria are strict, very few legal scholars see sustainable development as a binding rule of customary international law. At least three things speak against it: the term is both abstract and non-standardised as to its content; it is a concept rather than a legal principle and lacks ‘norm-creating character’; and ‘inconsistent conduct’ is routine in the international community.⁵⁷⁰ Instead, the concept of sustainable development is a typical example of non-binding ‘soft law’.⁵⁷¹ The Indian Supreme Court was, naturally, free to introduce the concept into the legal system nonetheless.

How, then, did the Supreme Court understand this concept in the (perceived) absence of international law specifying its ‘salient features’? A part of the answer lies in that the Court in *Vellore Citizens’* also declared that the *precautionary principle* and the *polluter pays principle* “have been accepted as part of the environmental law of the land”.⁵⁷²

It is not easy to follow the Court’s reasoning when it seeks to substantiate this assertion, though. After a general account of the contents of Arts 47, 48A and 51A(g) of the Constitution, and of the statutory Acts for protection of water, air

⁵⁶⁸ What is legally defined as ‘customary law’ is often called ‘custom’. The concepts are discussed further in connection with water rights in Chapter VII and X.

⁵⁶⁹ Birnie & Boyle, pp. 16f., hold that “[b]oth conduct and conviction on the part of the state are required before it can be said that a custom has become law... It is, however, becoming increasingly difficult, in a world of over 190 states of diverse cultures, policies, interests, and legal systems to identify universal practice... [It] involves examination not only of states’ authoritative statements, unilateral and multilateral declarations, agreements, legislative and other acts, and actions in international organizations”. The International Court of Justice (ICJ), whose observations are only binding on the parties of each dispute adjudged by it, applies international custom whenever it can be determined to be “evidence of a general *practice accepted as law*” (emphasis added), Art 38(1)(b). The ICJ has held that there is no specific time limit during which the practice must exist before it can be regarded as a customary rule. Instead, this depends on the subject matter of the rule, the nature of state practice and the extent to which it is observed.

⁵⁷⁰ Cf. Birnie & Boyle, p. 13.

⁵⁷¹ Nevertheless, cf. *Philippe Sands*, p. 254: “There can be little doubt that the concept of ‘sustainable development’ has entered the corpus of international customary law, requiring different streams of international law to be treated in an integrated manner”. Sands refers to the *Case Concerning the Gabčíkovo-Nagymaros Project*, decided by the ICJ in 1997, in which the Court notes the concept of sustainable development.

⁵⁷² *Vellore Citizens’*, para 10.

and the environment,⁵⁷³ it is stated that “[i]n view of the above mentioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country”.⁵⁷⁴ However, these Acts contain only two substantial provisions each (Arts 24-25 of the Water Act; Arts 21-22 of the Air Act, and Arts 7-8 of the Environment Act). The remainder are of administrative and procedural character, providing for, among other things, the establishment and functioning of Pollution Control Boards. The Court refers to the fact that the Water Act “prohibits the use of streams and wells for disposal of polluting matters... without obtaining consent from the Board”. To expand the meaning of this one provision in order to lay down that the precautionary principle and the polluter pays principle *are* part of the positive, valid body of law is quite remarkable. This was probably not what Dworkin had in mind when claiming that courts do not create any new rules; they ‘discover’ and draw upon already established principles. We can instead see how the Court made use of its discretionary power for the benefit of *introducing* principles from other (countries’) sources.

Another interpretation is likewise liberal but slightly odd: the Court held that “[t]he Constitutional and statutory provisions protect a person’s right to fresh air, clean water and pollution free environment, *but the source* of the right is the *inalienable common law* right of a clean environment” (emphasis added). After quoting Blackstone’s Commentaries on the Laws of England it is stated that

“[o]ur legal system having been founded on the British Common Law[,] the right of a person to pollution-free environment is a part of the basic jurisprudence of the land”.⁵⁷⁵

It is interesting to note here that in the passage quoted from Blackstone, he in turn refers to the ancient (moral) maxim *sic utere tuo, ut alienum non laedas* (‘use [what is] yours so as not to harm [what is] of others – also known as ‘good neighbourliness’ or the ‘no harm’ principle). This maxim is nowadays generally thought of as a principle of international customary law, although questioned by some. Here, the Supreme Court used it to show the law on nuisance of 1876. Again, the Court was free to support its borrowing of foreign principles by equally foreign sources, but as of now the Court omits to mention *other* applicable bases for its claim, especially more up-to-date sources from which a right to a pollution-free environment has been or can be deduced. For instance, the Court’s own precedents in *Subhash Kumar* and *Virender Gaur* could have been expanded.⁵⁷⁶ For these reasons, it is difficult to see *Vellore Citizens’* as a ‘sound’ precedent.

⁵⁷³ The Water (Prevention and Control of Pollution) Act, the Air (Prevention and Control of Pollution) Act, and the Environment (Protection) Act.

⁵⁷⁴ *Vellore Citizens’ Welfare Forum v. Union of India*, para 12-13.

⁵⁷⁵ *Ibid*, para 16.

⁵⁷⁶ AIR 1991 SC 420, p. 424; 1992 (2) SCC 577, 581, para 7.

4.5.2 *The Public Trust doctrine*

Another important case, showing how principles and doctrines from foreign jurisdictions have been developed in Indian law, is *M.C. Mehta v. Kamal Nath* (a.k.a. the ‘Span Motels case’, hereinafter: Kamal Nath) from 1997.⁵⁷⁷ It deals with a dispute over the natural flow of a river that had been interfered with by efforts to block its course, in order to reclaim seasonally flooded land. The case is mostly known as the precedent in which the Supreme Court referred to the Roman doctrine of *Public Trust*, and declared it part of the law of the land.⁵⁷⁸

The Public Trust doctrine is the legal principle that certain resources are preserved for public use, and that the government is required to maintain them for the public’s reasonable use. It has its origin in the Roman Empire at the beginning of the fifth century C.E. and was later codified into English common law. The doctrine is based on the need to protect the public’s right of access to certain resources. The doctrine lays down the pre-existing *rights of the state*: It holds domain and sovereignty over all shorelands and navigable water. The state, as a trustee, could however not grant exclusive rights to these resources to any single individual or entity. The state furthermore has *duties*: to administer such lands and waters to maintain the flow in the rivers as well as the public’s right to fishing and navigation. This applies along with the rights of *landowners*, who were traditionally granted full private ownership of ‘their’ water bodies and shorelands, with an accompanying right to sell these rights.⁵⁷⁹

Joseph Sax, who is credited with having created a new doctrine with his article on the Public Trust doctrine in 1970,⁵⁸⁰ found it to apply to natural resources (mineral or animal) contained in the soil and water over those public trust lands.⁵⁸¹ It was upheld by the Supreme Court of California in the so-called *Mono Lake* case in 1983,⁵⁸² wherein the Court held that the public trust “is an affirmation of the duty of the state to protect the people’s common heritage of streams, lakes, marshlands and tidelands”. Accordingly, the state would have to consider the public trust when allocating permitted withdrawals of groundwater.

In *Kamal Nath* the judges built up a reasoning to substantiate the jurisprudence of the case. They explain why the Public Trust doctrine is a part of the Indian legal system. They begin:

“The notion that the public has *a right* to expect certain land and natural areas to retain their natural characteristic is *finding its way into the law of the land*” (emphasis added).⁵⁸³

⁵⁷⁷ *M.C. Mehta v. Kamal Nath* 1997 (1) AD SC 1 = (1997) 1 SCC 388.

⁵⁷⁸ *Ibid*, para 24-35.

⁵⁷⁹ Sax 1970.

⁵⁸⁰ *Ibid*.

⁵⁸¹ *Ibid*, cf. Sax 1990, pp. 269ff.

⁵⁸² *National Audubon Society v. Superior Court of Alpine County*, 658 P.2d 709 (Cal. 1983).

⁵⁸³ *M.C. Mehta v. Kamal Nath*, para 23.

To support this, the Court initially refers to doctrinal writings from two scholars. The (rather famous) quotation from ecologist *Barbara Ward* shows how the judges are concerned with the ecosystem imperative:

“[T]oday the morals of respect and care and modesty come to us in a form we cannot evade. We cannot cheat on DNA. We cannot get round photosynthesis. We cannot say I am not going to give a damn about phytoplankton. All these tiny mechanisms provide the preconditions of our planetary life. To say we do not care is to say in the most literal sense that ‘we choose death’”.⁵⁸⁴

The Court comments on this by recalling “a commonly-recognized link between laws and social values”, a balance that to the ecologist (presumably)

“is not alone sufficient to ensure a stable relationship between humans and their environment. *Laws and values must* also contend with the constraints imposed by the outside environment. Unfortunately, *current legal doctrine rarely* accounts for such constraint, *and thus environmental stability is threatened*” (emphasis added).⁵⁸⁵

A clear stand is taken in the perception of law and the respective roles of the legislature and the courts. Unlike *our laws*, the *laws of nature* cannot be changed by legislative fiat, sums the Court, and therefore they *must inform* all of our social institutions.⁵⁸⁶ The approach that ‘our laws’ ought to develop and improve, based on ‘objective observations’ and scientific insights into nature’s limits is in line with what Justice Katju prescribed for the Indian legal system.

It is further held that where there is law made by the ordinary legislator, the courts can serve as an instrument for determining its intent, thereby exercising their power of judicial review. But in the absence of any legislation, the executive, which is acting *under the doctrine of public trust*, cannot abdicate responsibility over the natural resources and convert them into private ownership.⁵⁸⁷ The Court also gave expression to several value-laden matters. For instance, it concluded at an early point that

“[t]he area being ecologically fragile and full of scenic beauty *should not have been permitted* to be converted into private ownership and for commercial gains” (emphasis added).⁵⁸⁸

This statement is somewhat remarkable, considering that it precedes the analysis of what legal rules are applicable in the case. It should possibly be read in conjunction with a sarcastic comment about the defendant:

“It may be mentioned that Mr Kamal Nath was the Minister-in-charge, Department of Environment and Forests at the relevant time... It is only in November 1993 when Mr Kamal Nath was the Minister, in charge of the Department that

⁵⁸⁴ *Ibid.* Ward is for some reason cited only with reference to her name, although this is a famous quote from *Only One Earth: The Care and Maintenance of a Small Planet*, co-authored with R. Dubos and the UN for the 1972 Stockholm Conference.

⁵⁸⁵ *M.C. Mehta v. Kamal Nath*, para 23.

⁵⁸⁶ *Ibid.*

⁵⁸⁷ *Ibid.*, para 35.

⁵⁸⁸ *Ibid.*, para 22.

the clearance was given by the Government of India and the lease was granted. Surely it cannot be a coincidence”.⁵⁸⁹

The Court took responsibility as an active creator of law in the absence of regulations that can serve to hinder this type of corruption and ecological damage. Since the Public Trust doctrine was introduced, it has been referred to frequently in environmental cases, as an instrument to direct the executive to take due action. According to Shyam Divan and *Armin Rosencranz*, the doctrine may apply to unregulated areas such as the exploitation of groundwater, though this has yet to be tested.⁵⁹⁰

4.5.3 The Polluter Pays principle

The common-law rule of ‘strict liability’ laid down in *Rylands v. Fletcher*⁵⁹¹ was traditionally applied in India. The doctrine makes a person responsible for damage and loss caused by his/her acts or failure to act regardless of whether the petitioner can establish culpability. It means that negligence can be remedied even though a causality link cannot be proven between the person responsible and the act. A defendant can be held liable for bringing or accumulating inherently dangerous materials, e.g., toxic substances, on his/her land if these are later allowed to escape from it.

The doctrine of ‘strict liability’ was replaced by the principle of ‘absolute liability’ by the Constitution Bench decision in *M.C. Mehta v. Union of India* (Oleum Gas Leak Case, a.k.a. the Shiram Gas Leak case).⁵⁹² This case followed close upon the Union Carbide disaster in Bhopal, 1984,⁵⁹³ and it was perceived as urgent to choke the exceptions to the rule in *Rylands v. Fletcher* so that a ‘sabotage theory’ would not shield the American chemical company Union Carbide from the victims’ claims.⁵⁹⁴ In the *Oleum Gas Leak case*, Justice Bhagwati therefore made a lengthy reflection about the application of the ‘strict liability’ doctrine:

“The rule in *Rylands v. Fletcher*... applies only to non-natural user of the land and it does not apply to things naturally on the land or where the escape is due to an act of God and an act of a stranger or the default of the person injured or where the thing which escapes is present by the consent of the person injured or in certain cases where there is statutory authority. This rule[,] evolved in the 19th century at a time when all these developments of science and technology had not taken place[,] cannot afford any guidance in evolving any standard of liability consistent with the constitutional norms and the *needs of the present day economy and social structure*... [T]he Court need not feel inhibited by this rule...

⁵⁸⁹ *Ibid*, para 12.

⁵⁹⁰ Divan & Rosencranz, p. 171.

⁵⁹¹ (1868) LR 3 HL 330.

⁵⁹² AIR 1987 SC 1086 = (1987) 1 SCC 395.

⁵⁹³ Refers to the gas leak (*methyl isocyanate*) from the pesticide factory of Union Carbide that killed more than 2,500 people and injured many thousands for life.

⁵⁹⁴ Divan & Rosencranz, p. 106.

Law has to grow in order to satisfy the needs of the fast changing society and keep abreast with the economic developments taking place in the country... The Court cannot allow judicial thinking to be constricted by reference to the law as it prevails in England or in any other foreign country. Although this Court should be prepared to receive light *from whatever source it comes*, but it *has to build up its own jurisprudence*, evolve new principles and lay down new norms which would adequately deal with the new problems which arise in a highly industrialised economy. If it is found that *it is necessary to construct a new principle of law* to deal with an unusual situation which has arisen and which is likely to arise in future... It is through creative interpretation and bold innovation that the human rights jurisprudence has been developed in India to a remarkable extent and this forward march of the human rights movement cannot be allowed to be halted by unfounded apprehensions expressed by *status quoists*” (emphasis added).⁵⁹⁵

The law laid down was eventually a rule ‘without exception’: “if any harm results on account of such activity the enterprise must be *absolutely liable to compensate* for such harm *irrespective of* the fact that the enterprise had taken all reasonable care and that the harm occurred without any negligence on its part”.⁵⁹⁶

The polluter pays principle was adopted by the Supreme Court as late as in 1996 in the *Bicchri* case.⁵⁹⁷ The rules of liability in the *Oleum Gas Leak Case* were discussed, but the Court then observed that

“[t]he question of liability of the respondents to defray the costs of remedial measures can also be looked into from another angle, which has now come to be accepted universally as a sound principle, *viz.*, the ‘Polluter Pays’ Principle... Thus, according to this principle, the responsibility for repairing the damage is that of the offending industry”.⁵⁹⁸

Reference was made to the OECD and the European Community’s efforts to effectively define the principle. Affirming this rule in *Vellore Citizens’*, Justice Kuldip Singh of the Supreme Court added that

“[t]he ‘Polluter Pays’ principle as interpreted *by this Court* means that the absolute liability for harm to the environment extends *not only to compensate* the victims of pollution but also the cost of *restoring* the environmental degradation. Remediation of the damaged environment is part of the process of ‘Sustainable Development’

⁵⁹⁵ AIR 1987 SC 1086 = (1987) 1 SCC 395, para 5, 6(i-ii).

⁵⁹⁶ *Ibid*, para 7(i). It was held in a later review of the *Bhopal* case that Justice Bhagwati’s statement in regards to *Rylands v. Fletcher* was an *obiter* as the question before the Court had been whether Arts 21 and 32 were applicable, *cf.* Divan & Rosencranz, p. 107; *Union Carbide Corporation v. Union of India* AIR 1992 SC 248, p. 261. I do not agree: in the *Oleum* case a Bench decided to refer the applications for compensation to a larger Bench of five Judges to lay down the law on, *i.a.*, “(3) What is the measure of liability of an enterprise which is engaged in an hazardous or inherently dangerous industry, if by reason of an accident occurring in such industry, persons die or are injured. Does the rule in *Rylands v. Fletcher*... apply or is there any other principle on which the liability can be determined”.

⁵⁹⁷ (1996) 3 SCC 212 = AIR 1996 SC 1446.

⁵⁹⁸ (1996) 3 SCC 212 = AIR 1996 SC 1446, p. 1466.

and as such polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology” (emphasis added).⁵⁹⁹

Hence in this case the Court further expanded the meaning of the principle. However, it should be clarified here that the parts from the *Bichhri* case that are cited by the Justice in *Vellore Citizens’* refer not to the polluter pays principle but to the Court’s reasoning on the concept of ‘absolute liability’. Divan & Rosencranz consider the discussion of the polluter pays principle in *Vellore Citizens’* to be ‘dissatisfactory’ as the *Bichhri* case concerned tort law and the escape or discharge of toxic substances, while *Vellore Citizens’* involved untreated effluents and not an industrial accident. The “court, however, rolled together the ‘polluter pays principle’ (applicable to *non-toxic* pollution cases) with the absolute liability standard (applicable to *toxic* torts)” (emphasis in original).⁶⁰⁰

From being largely unknown in Indian jurisprudence, the polluter pays principle was thus applied in three cases during 1996 and furthered the question of compensation as decided in regard to ‘strict’ and ‘absolute’ liability.

4.5.4 The Precautionary Principle

The landmark decisions taken in *Vellore Citizens’* also introduced the ‘new concept’ of the ‘precautionary principle’ into Indian law:

“[I]n the context of the municipal law [the principle] means

- (i) Environmental measures – by the State Government and the statutory Authorities – must anticipate, prevent and attack the causes of environmental degradation.
- (ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- (iii) The ‘Onus of proof’ is on the actor or the developer/industrialist to show that his action is environmentally benign”.⁶⁰¹

There are no specific references to the international instruments and conventions from which the formulations are taken. For instance, para (i) above was first framed as part of the Bergen Ministerial Declaration on Sustainable Development in the ECE Region in 1990. Para (ii) is drawn from, among other instruments, the Rio Declaration (Principle 15). And so on. Only a general mention is made of the Stockholm Declaration, the Brundtland Report, the Earth Summit, etc.

In *M.C. Mehta v. Union of India* (Badkhal and Surajkund lakes case) the precautionary principle was affirmed and the Court added that it “*makes it mandatory* for the State Government to anticipate, prevent and attack the causes of environmental degradation”.⁶⁰² This clarified that authorities have a duty to take actual measures in order to anticipate, etc. – and the principle thereby became a positive right of citi-

⁵⁹⁹ AIR 1996 SC 2715, p. 2721, para 11.

⁶⁰⁰ Divan & Rosencranz, p. 111, *cf.* pp 589f.

⁶⁰¹ AIR 1996 SC 2715, p. 2721, para 11.

⁶⁰² (1997) 3 SCC 715, para 10.

zens concerned with environmental protection. It was also said that preventive measures have to take account of the carrying capacity of the ecosystems operating in the environmental surroundings under consideration.⁶⁰³

For the benefit of meticulously developing the law, the *A.P. Pollution Control Board I v. Prof. M.V. Nayudu* is the most important. The precautionary principle and the new rule of ‘burden of proof’ were discussed, in the light of the Rio Declaration and the work of several international scholars and commissions.⁶⁰⁴ The Supreme Court found it

“necessary to explain the meaning of the principles in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them...

The principle of precaution involves the *anticipation of environmental harm* and taking measures to avoid it, or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, prosperity and economic interest, but also protect the environment *for its own sake*. Precautionary duties must not only be triggered by the suspicion of concrete danger, but also by (justified) concern or risk potential” (emphasis added).⁶⁰⁵

It was also pointed out that the scientific approach was ‘based upon contemporary trend in the adjudication of environmental matters in various countries’. The Court held that the special burden of proof is reversed. It is placed on those who want to change the *status quo*, and applies to the *absence of injurious effect* of the actions proposed.⁶⁰⁶

As mentioned, the *Narmada Bachao Andolan* case concerned large dams to be constructed on the Narmada River (the *Sardar Sarovar* Project). The counsel for the petitioner maintained that the onus of proof was on the respondent, who should “satisfy the Court that there will be no environmental degradation”. The Court, led by Justice *B.N. Kirpal* referred to the law laid down in *Vellore Citizens’* and *A.P. Pollution Control Board I* but held that

“[i]t appears to us that the precautionary principle and the corresponding burden of proof on the person who wants to change the status quo will *ordinarily* apply in a case of polluting or other project or industry where the *extent of damage* likely to be inflicted is *not known*.

When there is a state of uncertainty due to lack of data or material *about the extent* of damage or pollution likely to be caused then, in order to maintain the ecology balance, the burden of proof that the said balance will be maintained must neces-

⁶⁰³ *Ibid*, para 6.

⁶⁰⁴ 1999 (1) JT 162 = 1999 (1) SCALE 140 = AIR 1999 SC 812.

⁶⁰⁵ *Ibid*, para 32, 35 (in AIR 1999 SC 812).

⁶⁰⁶ *Ibid*, para 37, 39.

sarily be on the industry or the unit which is likely to cause pollution” (emphasis added).⁶⁰⁷

So far in the paragraph quoted, the reasoning deviates partly from the definition of the principle as pronounced in the cases mentioned; according to *Vellore Citizens*, the polluter is “to show that his action is environmentally benign” – thus harmless, or of remedial character. “Absence of injurious effect” was a wording of *A.P. Pollution Control Board I*. Nevertheless, the Court in *Narmada* construed the principle somewhat differently in that it added “the extent of damage” as a test. And apart from the traditionally used term ‘uncertainty’, Justice Kirpal interpreted precaution as being a question of ‘not knowing’. When the precautionary principle was applied to the case at hand, it was therefore stated that:

“[o]n the other hand *where the effect* on ecology or environment of setting up of an industry *is known*, what has to be seen is that if the environment is likely to suffer, *then what mitigative steps can be taken* to offset the same. Merely because there will be a *change* is no reason to presume that there will be ecological *disaster*” (emphasis added).⁶⁰⁸

The Court almost seemed to be mocking the intent of the definition decided in *Vellore Citizens* – that “lack of scientific certainty should not be used as a reason for postponing measures to prevent...” – by saying that the existence of knowledge (scientific certainty) should be used to take measures to mitigate environmental degradation. However, the Court continued:

“It is when the effect of the project is known then the principle of *sustainable development* would come into play which will ensure that mitigative steps are and can be taken to *preserve the ecological balance*. Sustainable development means what type or extent of development can take place which can be sustained by nature/ecology with or without mitigation... India has an experience of over 40 years in the construction of dams. The *experience does not show* that construction of a large dam is not cost-effective or *leads to ecological or environmental degradation*... and, therefore, the decision in *A.P. Pollution Control Boards case*... will have no application in the present case” (emphasis added).⁶⁰⁹

The balancing act performed by the Court in *Narmada* is complex and exceptional (*cf.* further analysis on the drinking water aspects in Chapter VIII). The precautionary principle was invoked, but eventually not applied. Directions were, however, given on continued monitoring and to ensure that all steps were taken “not only to protect but to restore and improve the environment”.

5 Concluding remarks

This chapter has sought to shed light on the concept of law as seen either as ‘being law’ only when posited – deliberately constructed and instituted by legislator and

⁶⁰⁷ 2000 (7) SCALE 34 = (2000) 10 SCC 664, para 150.

⁶⁰⁸ *Ibid.*

⁶⁰⁹ *Ibid.*

courts – or as otherwise, for instance in line with (moral or amoral) values, standards, and principles. The two ways of understanding law have increasingly converged over the past fifty years. The debate regarding whether there is a place for values, morals and ethics in law and in the applied legal reasoning has thus changed the understanding of both natural law and legal positivism. The outcome of this debate is important not only as a matter of academic discourse, but also in the light of the study and teaching of law to future members of the judiciary and other law-applying institutions.

This chapter has also pointed to the importance of talking of rights as entitlements and claims, *and* simultaneously as matters of obligations, duties, and responsibilities. It has been shown that rights in relation to water are to be explained foremost as the right-holder's justified *interests* in well-being, considering the fact that no person can live without safe access to water.

Indian courts decisions on environmental and water-related matters demonstrate a pluralistic approach and it seems as if judges follow strictly neither the positivist law doctrine, nor natural law teachings. By employing and developing the PIL instrument, lawyers and judges have shown how the frames of the legal system are stretchable enough to encompass far-reaching interpretations of constitutional and other rights and duties. The country's environmental jurisprudence has a value-based attitude to resources and the need for functional tools to handle them, and is moreover founded on a level of compassion for nature and sympathy with the poor strata of society. The often progressive stances taken in the Supreme Court's decisions display a blend of the legal tradition and view of 'sustainable development' found in the West, the modern ecological thinking of international environmental law and Hindu concepts, especially from the *dharmic* tradition. Indian jurisprudence can therefore be seen as ancient and yet highly contemporary, with 'environmental ethics' and universal moral standards informing the courts' interpretations.⁶¹⁰

Much of the discussion of rights and law in this chapter has taken place at a meta-level, i.e. it has concerned the very basic concepts of jurisprudence and has been based on theoretical consideration of its foundations and methods. Expectations of the role of law in attaining improved access to water must be attuned accordingly. I allude here to the discrepancy between jurisprudence and how law, regulations, and the wider concept of 'rights' are perceived to function in society. It has been held that most societies apply locally devised norms and practices for "who may use what water in what ways", and these may differ from all other types of 'water law' and 'water rights'.⁶¹¹ This and the concept of legal pluralism will be further discussed in Chapters VII and X below. Bridging the gap between rights-talk in strictly legal terms (the 'internal', 'law in books' view), and various discourses and observations that include rights and law as an essential building-block of society (an 'external' view of 'law in action') requires a stable foundation of insights into conceptual comprehensions.

⁶¹⁰ Cf. Abraham; Perez; Tarlock, p. 585.

⁶¹¹ Meinzen-Dick & Bakker, p. 130.

From the general progress in the field of environmental law, we can conclude that values of morality and ethics are fundamental also as the basis for law concerning access to water. To the extent that confluence has now been reached between the theories on legal positivism and natural law there could be important consequences for how water is regarded in terms of rights so that a *human right* to water can be perceived as applying even in jurisdictions where there is no written or equivalent rule regulating such a right, and not least in the general debate over the topic. In the next chapter, this is one of our main concerns.

Chapter V

A human right to water

1 Introduction

The account of water-as-a-right now returns to Gleick's question whether there *is* a 'human right' to water. The UNDP has long advocated that the world's governments must make 20 litres of fresh, clean water daily *a human right* for each and everyone, and the Human Development Report of 2006 sought to move 'beyond water scarcity'. It established that the water crisis is rooted in power inequalities – but also that there is a need to take the right to water seriously. Against this background, we need to explore what such a right entails. First, the general idea of human rights will be presented and compared with legal rights under Hohfeld's scheme of rights as corresponding to duties. The aim is to explore, from different perspectives, the added value of seeing access to water as a 'human right'. Secondly and more specifically, the 'right-to-water' discourse and movement is dealt with, including *James W. Nickel's* test for justifying norms as human rights. The legal bases for claiming such a right and General Comment No. 15 are discussed, as is the content of a right to water. An account of state government obligations is included.

2 Human rights as idea

2.1 *Defining the notion*

‘Human rights’ are by most accounts seen as vested in each individual or group of individuals *qua* human beings; they rest on universally applicable *values* and interests. ‘Rights’ refer to a wide continuum of values or *capabilities* thought to enhance human agency, and the realisation of these values and capabilities is to ensure individual and collective well-being.⁶¹² Certain special characteristics are often tagged onto human rights: they apply equally to all human beings; they are inalienable and they are universal.⁶¹³

These features have political implications, not least because they function as standards of political legitimacy. The philosophical idea that all individuals of humankind are endowed with certain rights is of fundamental *moral* significance for the promotion of ‘human’ life; they both “rest on and help to shape our moral nature as human beings”.⁶¹⁴ In a narrower sense, human rights are perceived as political norms that deal mainly with how people should be treated by their governments and official institutions. They can, however, also impose duties on governments to prohibit and discourage private conduct such as discrimination.⁶¹⁵

2.2 *Right ‘to’ and right ‘from’*

Human rights are conventionally classified into *negative* and *positive*, though not all ‘rights’ can be fitted into this strict categorisation.⁶¹⁶ The traditional type, the negative right, obliges Y to *refrain from* interfering with X’s right to life, or X’s other attempt(s) to do something. For instance, the state should not subject X to torture as X is entitled to *freedom from* political oppression. All individuals’ ‘freedom to own property’ and ‘not to be deprived of it arbitrarily’ are two other examples of rights. For these to be fulfilled, the state needs merely to *abstain from* certain actions.

Negative human rights deal with liberty, are fundamentally civil and political in nature, and serve to protect the individual from excesses of the state. They are often labelled ‘the first generation’ of human rights. On the contrary, the nature of positive human rights – ‘the second generation’ – is essentially social, economic and cultural. These rights entail claims on government resources and demands for public expenditure, such as for due access *to* various aspects of welfare – health care, education, housing and roads, and possibly various subsidies to clean drinking water. The notion is often used to describe a minimal standard of living, and is of great importance in that it ensures different members of the citizenry equal minimum conditions and treatment. Both kinds of right are covered by the Universal

⁶¹² Encyclopaedia Britannica Online/‘human rights’, p. 1.

⁶¹³ Donnelly, p. 10.

⁶¹⁴ Donnelly, pp. 7, 10.

⁶¹⁵ Nickel 2006.

⁶¹⁶ Philosophers and political scientists such as *David Hume* and *Adam Smith* proposed this distinction, though in other words.

Declaration of Human Rights, 1948,⁶¹⁷ and by the International Covenant on Economic, Social and Cultural Rights, 1976 (hereafter ICESCR or the Covenant).⁶¹⁸

The difference between the negative right and the positive may seem obvious, but as several scholars point out, negative rights according to which the state should refrain from interfering with certain things and doings of its citizens often require positive endeavours to, e.g., establish courts and authorities and an organisation for general elections, and to set up and train a police force.⁶¹⁹ This means that society (the state government) needs to actively take measures to fulfil its responsibilities.

That there is no clear line between the right *to* and the right *from* is shown from what *Jack Donnelly* (with reference to *Henry Shue*) calls ‘doing nothing more’:

“In some circumstances government restraint may be the key to realising the positive-sounding right to food. Consider government development programs that in numerous Third World countries have encouraged producing cash crops for export rather than traditional food crops for local consumption. In such cases, the right to food would have been better realised if the government had done ‘nothing more’ than refrain from interfering with agricultural incentives”.⁶²⁰

The same reasoning could possibly be applied in relation to access to (drinking) water – but it is simultaneously a silly argument considering the many government policies and incentives implemented to stimulate industrial, etc. activities that compete for scarce freshwater resources.

2.3 *Human rights as natural and/or positive rights*

2.3.1 Two views, or more

What is the basis of human rights? This question and its answer(s) are fundamental for understanding the added value of a right to water. It is often claimed that *natural rights* are the sources of human rights.⁶²¹ Other scholars prefer to emphasise the sheer *moral* aspects of the idea and leave the reference to natural law aside.⁶²² Yet others hold that human rights exist independently of human-rights *law*, i.e. the statutory provisions (or law made in courts) that codify certain rights. There are, however, also those who propose that human rights must be seen (only) as results of regional, cultural, political and/or time-bound belief systems, and constructed accordingly. It is further common to ignore these aspects altogether by talking in terms of a general ‘idea’ or ‘concept’ of human rights rather than seeking to define

⁶¹⁷ UN General Assembly 1948.

⁶¹⁸ UN General Assembly 1966b.

⁶¹⁹ Cf. Donnelly, p. 30; Holmes & Sunstein.

⁶²⁰ Donnelly, p. 30; cf. Shue 1980 pp. 41–45.

⁶²¹ Cf. Donnelly; Finnis (who asserts that ‘human rights’ is the contemporary idiom for ‘natural rights’, p. 198).

⁶²² Cf. William J. Talbott.

them as either based on natural right, or informed by legal positivism. From the general idea the specific right, e.g., to water, is then derived.

These contemporary and varying perspectives raise questions. Is it possible to assert the existence of human rights without thinking of moral values and beliefs? Can we be confident that positive law effectively lists and protects human rights? Can we discard natural, metaphysical, and/or theologically-based explanations of the idea of human rights in favour of seeing the idea as merely socially constructed and thereby historically contingent? A short discussion based on the differences between the (essentially) two ways of understanding 'human rights' is warranted here, partly because scepticism – at least of a 'thick' or extended list of human rights – persists among some individuals, groups and governments, and partly because the general jurisprudential discussion of 'rights' as corresponding to 'duties' is difficult to apply in respect of human rights.

During the late eighteenth and early nineteenth centuries, the idea of human rights played a key role in struggles against political absolutism. Liberty, in Locke's influential words, was one of the rights that existed in 'the state of nature', and meant freedom from arbitrary rule and respect for equality. This natural right, together with the right to life and property, was to be enforced by the state for the benefit of humankind. The 'rights of Man' were seen as inalienable and – not least important – absolute. This latter aspect, nevertheless, became one of those increasingly criticised, as was the association of natural rights with religious orthodoxy.⁶²³ Bentham dismissed natural rights as 'nonsense on stilts', writing that "[r]ight, the substantive *right*, is the child of law: from *real* laws come *real* rights; but from *imaginary* laws, from laws of nature... come *imaginary* rights" (emphasis in original).⁶²⁴ Also such political thinkers as *John Stuart Mill* argued that rights were ultimately founded on their utility, and man-made, posited. As a consequence of these and similar, critical views, the expression 'human rights' came to replace 'natural rights'. The birth of the international as well as the universal recognition of human rights can essentially be located to the second half of the twentieth century.⁶²⁵

In the *Encyclopaedia Britannica*, *Burns H. Weston* points out that though the heyday of natural rights proved short, the idea was not to be extinguished and after the fall of Nazi Germany the idea of human rights truly came into its own.⁶²⁶ As described in the previous chapter, a closure between natural law and legal positivism began around this time and presumably the understanding of human rights has been affected by this process and the resulting changes in perception of the concept of law. Weston nevertheless warns the reader that the definition of the nature and scope of human rights is disputed:

“Among the basic questions that have yet to receive conclusive answers are the following: whether human rights are to be viewed as *divine*, *moral*, or *legal* entitle-

⁶²³ Weston.

⁶²⁴ Bentham, *Anarchical Fallacies*.

⁶²⁵ Weston.

⁶²⁶ *Ibid.*

ments; whether they are to be validated by intuition, culture, custom, social contract, principles of distributive justice, or as prerequisites for happiness; whether they are to be understood as irrevocable or partially revocable; and whether they are to be broad or limited in number and content” (emphasis added).⁶²⁷

Beyond doubt, the Universal Declaration of Human Rights reflects values of natural law. The Preamble opens by declaring that a “recognition of the *inherent* dignity and of the equal and *inalienable* rights of all members of the human family is the foundation of freedom, justice and peace in the world...” (emphasis added). Similarly, Art 1 states that “[a]ll human beings are *born* free and equal in dignity. They are *endowed* with *reason* and conscience” (emphasis added).⁶²⁸

The principal problem with natural law in a world far more complex than Locke’s is that the rights considered natural can differ from theorist to theorist, depending upon their conceptions of ‘nature’ and thus on what law ought to be.⁶²⁹ Yet most reasoning concludes that certain human rights are inherent in us, or ought to be. The right to water is clearly a right everyone is born with.

2.3.2 Moral ground and negotiated provisions

One of those who make a clear distinction between human *rights* and human-rights *law* is *Marek Piechowiak*. In his view, human-rights laws in the form of legal norms “do not *establish* fundamental rights and freedoms, they only *guarantee* them”, because the rights derive from inherent dignity and are inalienable (emphasis added).⁶³⁰ He writes that

“[o]bjections to the universality and the existence of human rights as rights, often stem from overlooking the distinction between human rights law and human rights themselves (the rights which are protected by human rights law). Ignoring the fact that the human rights concept came into existence partially *to challenge the positivistic approach* to law, human rights are sometimes rejected only because they do not accord with those characteristics of rights which were elaborated based on statutory law” (footnote omitted, emphasis added).⁶³¹

We will look closer at the UN as a duty-bearer etc. shortly. For now we will only observe that human rights can be seen as norms existing due to deliberate action to draw up such. Numerous human-rights treaties have consequently been enacted by the UN since 1948, containing rules decided as the result of negotiations between

⁶²⁷ *Ibid.*

⁶²⁸ Cf. Nickel 2007, p. 8, who seems to differ in his interpretation; he mentions no link between these formulations and natural law ideology. He also omits saying anything about how positivism was attacked after Hitler’s regime.

⁶²⁹ Shestack, pp. 208, 217.

⁶³⁰ Piechowiak, p. 6.

⁶³¹ *Ibid.*, p. 5, referring to the Universal Declaration, Preamble, Sec 3; ‘it is essential... that human rights should be protected by the rule of law’.

sovereign states. They are thus part of the system of international law.⁶³² Human rights can be thought of as moral rights, but most rights have become *legal* rights as well. To a varying extent, they have also been implemented at national level. It will be shown here that access to (drinking) water has already been recognised as a right in international human-rights law, though many commentators still wait for a clear manifestation of political will among, e.g., Member States to the UN Human Rights Council – and some wait for express mentioning in a separate treaty.

It follows from the natural-law theories that there is a body of law on human rights – regardless of the UN, other international organisations, or the nation-state. Nickel opposes seeing natural rights as influential for discussing our contemporary human rights, and holds that human rights are international norms that exist in morality *and* in law – but foremost, they are the result of a human-rights *movement*; a political project initially undertaken after World War I. This movement has aspired to prevent governments from exposing their citizens and residents to atrocities, thereby promoting peace and security. The UN has played a key role in the development since its creation.⁶³³ We can interpret this as a special background of human rights, politically coloured and people-oriented rather than influenced by a higher creator.

Nickel points to several substantial differences between the now existing human rights and the natural rights influencing them, and he thereby objects to there being a strong linkage. “[T]oday’s human rights are not part of a political philosophy with an accompanying epistemology. They make philosophical assumptions, but they do not require acceptance of a particular philosophy or ideology”. The post-war, international human-rights movement, says Nickel, had “aspirations to *create* international law”, and therefore “it did not place great emphasis on identifying the normative foundations of human rights” (emphasis added).⁶³⁴ That the UN system of rights is the result of deliberate endeavours is clear from the history of the creation of the Universal Declaration via committee work and influences taken from historic bills of rights. However, articles 22 through 27 of the Universal Declaration “make a new departure, incorporating economic and social standards”. The Declaration has further “been amazingly successful in *establishing* a fixed worldwide *meaning* for the idea of human rights” (emphasis added).⁶³⁵ Indeed, it looks possible to institute a kind of rights previously not acknowledged as fundamental to humankind.

Nickel also points out that billions of people do not believe in the God found in Christianity, Islam and Judaism, so rights cannot have been ‘endowed by [our]

⁶³² Shestack, pp. 209f., reminds of that, traditionally, the theory of positivism undermines the international-law basis for human rights; emphasis is placed on the supremacy of national sovereignty rather than on the influence of ‘inherent’ rights which apply regardless of the state.

⁶³³ Nickel 2006; 2007, pp. 7ff.

⁶³⁴ Nickel 2007, p. 7.

⁶³⁵ *Ibid*, pp. 8f.

Creator'.⁶³⁶ Moreover, rights stemming from 'divine decree' would have to be very general and abstract (e.g., life, liberty) to be applicable over thousands of years of historical development. But contemporary human rights – as listed in UN conventions and declarations, etc. – are numerous and very specific in fashion, so how did these emerge? asks Nickel rhetorically.⁶³⁷

Neither can human rights be seen as basic moral norms shared by all or almost all accepted human moralities, according to Nickel. It is unrealistic to think of norms shared by almost all human groups. Most of all, though, "human rights are mainly about the *obligations of governments*. Ordinary interpersonal moralities often have little to say about what governments should and should not do. This is a matter of *political morality*" (emphasis added). Human rights exist because they are constructed, but the best form of existence is when a human right is supported by strong moral and practical reasons.⁶³⁸ It is further asserted that a characteristic of human rights is that they set minimum standards and leave most political decisions in the hands of national leaders and electorates. Still, says Nickel, "they are demanding standards that impose significant constraints on legislation, policy-making, and official behavior".⁶³⁹ This is another way of saying that to a certain extent, implementation is a function of each nation state's discretion.

Piechowiak has written that

"modelling the legal system on the basis of a respect for human rights, helps to protect positive law from degenerating into 'legal lawlessness'. The State and the law exist *for* the individual living in a society... The contemporary State based on a respect for human rights is usually characterised as a *democratic State governed by the rule of law*, realizing an appropriate social policy" (emphasis in original).⁶⁴⁰

A conclusion to be drawn from his, Nickel, and others' reasoning is that human rights are typical products of a soft, or inclusive, modern perspective on the concept of (positive) law. This does not make them unique in the sense of *sui generis*, it merely gives them a 'Morals Added!' label, or possibly one reading 'Based on Pure Morals!'. A human right that cannot in some way be traced back to values embraced by the theory of natural rights, to religion or the like is, nonetheless, almost certainly unthinkable.

2.3.3 Human rights correlated with duties

To return to the question of whether human rights are *rights*, the analysis of opposites and correlatives of a right is again relevant. According to the Hohfeldian axiom, there cannot be a right without a duty. Right-holder X's right is addressed to

⁶³⁶ According to the U.S. Declaration of Independence (1776), people are 'endowed by their Creator' with natural rights to 'life, liberty, and the pursuit of happiness'.

⁶³⁷ Nickel 2006.

⁶³⁸ Nickel 2006, *cf.* 2007, p. 10.

⁶³⁹ Nickel 2007, p. 10.

⁶⁴⁰ Piechowiak, pp. 9f.

some person or party Y, and would be meaningless unless Y had a corresponding duty or responsibility to honour X's right.

The question of rights and duties and the two-sides-of-the-coin is more complex in relation to human rights, and the traditional understanding of the scheme is not all that suitable. Two examples will show the difficulties involved. First: the rights of the binding International Covenant on Civil and Political Rights, 1966. This concerns the relationship between the state and its citizens/residents, and seeks to regulate situations and practices that are generally thought of as intolerable. In general, we can envisage certain rights vested in each and everyone, which entail a corresponding duty for the state not to interfere with its citizens and others' positions in 'civil' and 'political' matters. Such negative rights are, in Hohfeld's terminology, equal to privileges/liberties and stand in opposition to the state's no-claims. For instance, in the sentence [X has a claim that Y φ if and only if Y has a duty to X to φ], φ can stand for 'the right to liberty':

X has a claim-right that the state refrains from interfering with her liberty, if and only if there is a duty incumbent on the state to refrain from interfering with her liberty.

According to the International Covenant on Civil and Political Rights, a similar, legal, right applies in relation to the State Parties that have signed the Covenant:

No-one shall be deprived of his liberty except on such grounds and in accordance with such procedure as are established by law (Art 9(1)).

As a duty is expressed here, there is also a valid right. This right is subject to restrictions, meaning that the duty-bearer is entitled to circumscribe the right-holder's full enjoyment of the original right, under certain conditions. The provision sets out the posited law, codified in line with what the legislating parties agreed in the mid-1960s.⁶⁴¹

The next example is the second generation of rights to, among other things, work, social security and education as laid down in the ICESCR. These are more difficult to express logically in the Hohfeldian way. Can φ be replaced by 'a right of everyone to the enjoyment of the highest attainable standard of physical and mental health', as it is formulated in Art 12 of the ICESCR? Very generally, the claim-rights of this – equally binding – treaty are referred to as 'welfare rights' which the State Parties are obliged to protect. This is, however, mostly interpreted as 'endeavour to ensure', for instance by providing assistance in different forms. By switching perspectives, we see that as the duties, obligations and responsibilities are often indirect in relation to what negative rights entail, it is all the more difficult to establish clearly what the corresponding rights mean.

That a *human* right and the accompanying duties are difficult to pinpoint cannot be the same as that the right *per se* is meaningless or logically corrupt. However, it is

⁶⁴¹ The right as well as its conditions also apply to non-signatories and non-ratifying signatories of the treaty, in so far as it can be established that they mirror customary law.

often held – and we can only assume that this is by Hohfeldian standards – that the ICESCR states *goals*, but not real rights. If we take the example of the right to ‘an adequate standard of living’ in Art 11(1), which specifically includes ‘a right to adequate food’, we see that the way in which Hohfeld deconstructed rights is indeed difficult to apply here:

X has a claim-right that the government provides her with adequate food *if* and only *if* the state *has a duty to provide* her with adequate food (emphasis added).

The difficulty relates to how Art 11(1) continues by laying down that the States parties “will take appropriate steps to ensure the realization of this right”. This formulation, interpreted in the light of the background of this and other human rights in the ICESCR,⁶⁴² tells us that the duty-bearer is indeed under an obligation, but *merely to take consecutive steps towards* ensuring that food can be provided. This is a binding responsibility, *but a very abstract one*.⁶⁴³ If we go by Hart and others’ definition of a right as relating to choice, will, and power, it would not seem as if we were discussing a ‘right’ at all here – possibly an aspiration, but not something that right-holders can choose to enforce or waive against their government. If, instead, we employ Raz’s definition, it suffices to justify the government’s and/or other parties’ duties by pointing to X’s interest and well-being (and establish that there are no simultaneous conflicting considerations of greater weight). The decision to take the perspective of X rather than Y hence determines whether Hohfeld’s definition of rights is applicable.

When Hohfeld sketched out his scheme he had contractual situations and two-party relationships in mind.⁶⁴⁴ Hart and his followers continued this line of thought in holding that a right is possessed by or belongs to the holder, and excluded third-party beneficiaries from the relation, as we saw in the previous chapter. Both these scholars were products of their time and could limit their analyses to theoretical relationships⁶⁴⁵ – the law in books and not in action – whereas it is not feasible here to disregard the political, socioeconomic, etc. context of law. This circumstance both strengthens and weakens the case for a second-generation right such as food and water. Critics generally point to the difficulties and costs involved in implementing such rights, since the *implications for the duty-bearer* would thus prevent us

⁶⁴² The ‘first’ generation of civil and political rights was separated from the ‘second’ so that they could be regulated in two autonomous treaties. Reflecting different schools of thought and political normativity, they are held to differ not only in content but also in legitimacy. For instance, the second generation rights are held to have originated primarily in the socialist tradition of early nineteenth-century France, Vasak; Weston. Cf. Donnelly; Nickel 2006, 2007; Shue.

⁶⁴³ Nickel 2007, p. 38, writes that “[s]ocial and economic rights presuppose modern relations of the production and the institutions of the redistributive state”. These rights are abstract, “subject to a variety of interpretations and hence less useful in political criticism and less suitable for legal implementation”.

⁶⁴⁴ Cf. Hohfeld 1913.

⁶⁴⁵ Both refer occasionally to various court decisions but the predominant part of their respective reasoning is based on hypothetical and rhetorical arguments.

from regarding these rights as ‘rights’ of X. The logical fallacy of such a conclusion is at odds with most understandings of jurisprudence.

Others, like Weston, display a converging attitude. Second-generation rights are indeed positive *rights* and necessitate state intervention because they are, fundamentally, claims to social equality:

“[I]nequities created by unregulated national and transnational capitalism become more and more evident over time and are not accounted for by explanations based on gender or race, [and therefore] it is probable that the demand for second-generation rights will grow and mature, and in some instances even lead to violence”.⁶⁴⁶

And as Nickel holds, there are philosophers who pursue the notion that human rights are concerned with standards of a minimally good life, of the most imperative requirements of distributive justice and fairness and of ‘subsistence’.⁶⁴⁷ He particularly mentions Shue, who defines ‘subsistence’ as:

“unpolluted air, unpolluted water, adequate food, adequate clothing, adequate shelter, and minimal preventive health care... A right to subsistence would not mean, at one extreme, that every baby born with a need for open-heart surgery has a right to have it, but it also would not count as adequate food a diet that produces a life expectancy of 35 years of fever-laden, parasite-ridden listlessness”.⁶⁴⁸

Shue adds that most of the world’s malnourished are also diseased since malnutrition lowers resistance to disease, and hunger and infestation normally form a tight vicious circle. A right to subsistence, in Shue’s words, therefore includes the provision of subsistence at least to those who cannot provide for themselves.⁶⁴⁹

Nickel also quotes *Brian Orend*, who holds that “[m]aterial subsistence means having secure access to those resources one requires to meet one’s biological needs – notably a minimal level of nutritious food, clean water, fresh air, some clothing and shelter, and basic preventive health care”.⁶⁵⁰

Nickel himself proposes that subsistence alone offers too minimal a conception of social rights, and therefore extends the list.⁶⁵¹ Hence, it “obligates governments to so govern” that certain questions can be answered in the affirmative. Among those are

- Subsistence: do conditions allow all people to secure safe air, food, water, etc. if they engage in work and self-help insofar as they can; practice mutual aid through organisations such as families, neighbourhoods, and churches;

⁶⁴⁶ Weston.

⁶⁴⁷ Nickel 2007, pp. 138f. In this context, *John Rawls*, *Amartya Sen*, and *Martha Nussbaum* are mentioned.

⁶⁴⁸ Shue, p. 23.

⁶⁴⁹ *Ibid.*, pp. 23f.

⁶⁵⁰ Orend 2001, cited in Nickel 2007, p. 139.

⁶⁵¹ Nickel 2007, p. 139, does this in accordance with what former U.S. Secretary of State *Cyrus Vance* suggested in 1977, just like Shue did in his book of 1996.

and procure help from available government assistance programs? Do all people capable of work enjoy access to productive opportunities that allow them to contribute to well-being?

- Health: do (good and healthy) environmental conditions, water and sewer systems, etc., give people excellent chances of surviving childhood and childbirth, and living a normal lifespan?
- Education: do available educational resources give people good opportunities to learn the skills necessary for survival, health, functioning, citizenship, and productivity?⁶⁵²

The authors mentioned here – Nickel, Shue, Orend, etc. – all put human rights into a perspective of contemporary and highly pertinent needs. They do not shy away from discussing the ensuing problems of implementation and remedies, such as when Nickel writes that judges lack the powers necessary to implement the right to basic education – they can neither create nor fund school systems. Judges should not have such powers in a democracy, but should nonetheless play a vital role.⁶⁵³ The same is inevitably true for a right to access to water; the judiciary cannot provide this except in words.

Returning to the issue of duties, it is yet true that a right which does not involve a response (in the sense of a duty) of some sort in another person (party, institution) is much like an empty gesture – or at least only a half-full one? The symbolic value of holding on to a right might be very high, but a right in companion with an acknowledged obligation has a higher dignity. For *human* rights we must start with Raz's definition of a right rather than Hohfeld's. Accordingly, a certain aspect of fundamental well-being – such as subsistence – justifies the burden on the duty-bearer, in the interest of the beneficiaries. Numerous questions of priority will have to be answered in order to fulfil the rights involved, and answering these questions will function as initial, but yet 'appropriate steps to ensure the realization', as various international human rights treaties articulate it.

2.4 *Duty-bearers and addressees*

If we have now established that duties follow also upon human rights, the next question regards the duty-bearers, the parties on whom obligations are imposed. As mentioned above, a characteristic of human rights is that they are addressed mainly to governments. It is a widespread belief that the utmost burden for securing human rights – both freedom from and right to – is best placed upon the state. International human rights law places legal obligations on states to promote and protect these rights in a progressive way. States parties carry these obligations either as a result of ratifying human rights treaties or under customary international law.

State governments are as such empowered to delegate tasks to the domestic agencies and institutions that are, in turn, most able to effectuate them. Responsi-

⁶⁵² Nickel 2007, p. 140.

⁶⁵³ *Ibid*, pp. 142, 144.

bility in a federal state (such as India) will fall on the Centre government as well as on the State governments, according to the division of power set between different levels.

The relevant question is whether a certain duty-bearer is capable of implementing a right, on a sustainable, long-term basis. The universal character of the matter creates a situation where decisions of priority often need to be taken. Other responsibilities thus risk being abandoned because governments cannot afford the expenditures and costs of upholding both rights to water and to education, health care, criminal justice, etc. with the available resources. These questions belong to the area of macroeconomic policy and budgetary allowances but are simultaneously related to issues of political accountability and corrupt practice.⁶⁵⁴

Governments are not the only addressees of relevance here. In addition to the primary addressee, we can identify secondary addressees who bear back-up responsibilities – international institutions such as the UN and the World Bank are among these.⁶⁵⁵ Accordingly, a right such as freedom from racial and other discrimination requires individuals to refrain from acting in certain ways. Though at the end of the day this comes down to governments installing proper sanctions and remedies for wrongful conduct, it shows how we all are involved in the respect for human rights. Citizens with voting power also have a responsibility for creating and maintaining a democratic political system, by pressuring governments if necessary.⁶⁵⁶

Piechowiak has identified some of the basic characteristics of human rights as a “complex of *relations* which is constituted of real relations between individuals who have the duty to act (or refrain from acting) towards each other, and the relations of every human being to certain goods (things, circumstances) securing his or her *well-being*” (emphasis added).⁶⁵⁷ The idea of human rights, including that to water, can be seen as related to notions of morality and ethics in the sense of justifiable expectations of *the good life*. The rights and corresponding duties applying to access to water are not solely the state’s responsibility. Especially if human rights codify morality, this also puts responsibilities on water users themselves. People all over the world have a role to play in supporting the protection of human rights on a local scale as well as on a global one. Art 29 of the Universal Declaration of Human Rights states that “*everyone has duties to the community*” and that everyone’s rights and freedoms can be subject to limitations under law “for the purpose of securing due recognition and respect for the rights and freedoms of *others*” (emphasis added). Such expressions of reciprocal duties and the responsibilities of individuals also tell us about the legacy of the natural-rights theories.

⁶⁵⁴ Cf. Nickel 1993, pp. 81f.

⁶⁵⁵ Cf. UNDP 2006, p. 60.

⁶⁵⁶ Nickel 1993, p. 81, 2007, p. 10. It has been pointed out that the question of locating an addressee is complicated by the fact that existing institutions – including states, international agencies and transnational corporations – and the structures and systems that these exist within may be sources of world hunger and thirst rather than their remedy. Cf. O’Neill, p. 77, in Nickel 1993, *ibid.*

⁶⁵⁷ Piechowiak, p. 10.

2.5 *Human rights in the UN discourse*

2.5.1 Legal and institutional framework

The United Nations' work is generally associated with the contemporary idea of human rights. The point of departure is that "[t]he recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world".⁶⁵⁸ Though the concept of 'dignity' is abstract and used in different ways depending on text and context, it is widely recognised as the primary principle underlying human rights.⁶⁵⁹

In UN work, and especially its Universal Declaration of Human Rights and subsequent Declarations and Conventions, the notion of human rights is given a more uniform definition. Many UN documents have legally-binding force – in the form of treaties or conventions – but the Universal Declaration itself has only 'advisory status'. Being part of international law, both the binding and the non-binding kinds of right are contested from time to time, not least by developing states that see their national sovereignty being questioned.

The post-World War II era has nevertheless witnessed a thickening catalogue of human rights. Their promotion and protection has been a major preoccupation of the UN:

"One of the great achievements of the United Nations is the *creation* of a comprehensive body of human rights *law*, which, for the first time in history, provides us with a universal and internationally protected *code* of human rights, one to which all nations can *subscribe* and to which all people can *aspire*.

Not only has the Organization painstakingly defined a broad range of internationally accepted *rights* – including economic, social and cultural, as well as political and civil rights; it has also established *mechanisms* with which to promote and protect these rights and to assist governments in carrying out their *responsibilities*" (emphasis added).⁶⁶⁰

The UN's role as legislator in the field is thus of essential value. The main sources of human-rights law are the Universal Declaration of Human Rights and the Charter of the United Nations – both adopted by the General Assembly (GA) in 1948 – as well as a number of documents and treaties stemming from NGOs and IGOs. 'Human Rights' have further been extended through decisions by the GA. Provisions pertinent to water are contained in, e.g., specific, legally-binding instruments such as the ICESCR. It addresses the 156 State parties that have ratified it so far. When this and the International Covenant on Civil and Political Rights, also adopted in 1966, entered into force 10 years later, they functioned to make many of the provisions of the Universal Declaration of Human Rights effectively binding.

⁶⁵⁸ Preamble to the Universal Declaration of Human Rights, 1948. GA resolution 217 A (III) of 10 December 1948.

⁶⁵⁹ de Gaay Fortman 2006a, p. 34.

⁶⁶⁰ UN web page 'More Information/Human Rights'.

Of the UN bodies that are specifically relevant to the subject of water as a human right, the most important are:

- the *General Assembly*. Made up of 192 Member States, it decides (normally) by a simple majority vote. Its Resolutions (decisions) are non-binding on member states;
- the *Economic and Social Council* (ECOSOC). It is composed of 54 member Governments and makes recommendations to the GA, often based on reports and resolutions of the Human Rights Council;
- the *Human Rights Council*. Established in 2006, it replaced the Commission on Human Rights. It is a quasi-standing body under the GA with a ‘complaint procedure’ that allows individuals and organisations to bring complaints about violations of human rights. It is the main policy-making body on human rights and drafts international, binding conventions and non-binding declarations. Its main subsidiary body is the Sub-Commission on the Promotion and Protection of Human Rights;
- the UN *High Commissioner* for Human Rights (UNHCHR). The post was created in 1993 and has the rank of Under Secretary-General of the UN. The function of the High Commissioner is to coordinate UN work on human rights, and the UNHCHR Office can submit reports to, e.g., the Human Rights Council;
- the *Committee on Economic, Social and Cultural Rights* has since 1985 supervised the implementation of the Covenant and can for this purpose issue non-binding General Comments. Decision-making is based on consensus. In periodic reports to the Committee, States parties outline the legislative, judicial and administrative measures taken to ensure that government policies and practices conform to the principles of the Covenant.⁶⁶¹

An integral part of the body of human-rights law provides for a monitoring role for the UN. Conventional mechanisms (treaty bodies), and extra-conventional mechanisms (special rapporteurs, representatives, experts and working groups) have been appointed in order to monitor compliance with the international human-rights instruments and to investigate alleged human-rights abuses.

2.5.2 The rights-based approach

Much of the groundwork for pronouncing (access to) water as a human right has been prompted by the so-called rights-based approach.⁶⁶² ‘Development’ and ‘human rights’ were considered two separate spheres – with diverging strategies and objectives – until the late 1980s. A ‘rights-based approach’ (RBA) to development and development aid has since taken root, much due to impetus to UN agencies

⁶⁶¹ Cf. UN web pages ‘The United Nations and Human Rights’, ‘United Nations Documentation: Research Guide’.

⁶⁶² Cf. Filmer-Wilson.

from former Secretary-General *Kofi Annan* in 1997-98.⁶⁶³ The UN began to implement the approach in 1998, with the intention of helping states and international agencies to redirect their development thinking.⁶⁶⁴ The rights-based approach describes situations “not simply in terms of human *needs*, or of developmental requirements, but in terms of society’s *obligation* to respond to the *inalienable rights* of individuals. It empowers people to *demand justice* as a *right*, not as *charity*, and gives communities a *moral* basis from which to claim international assistance where needed” (emphasis added).⁶⁶⁵ Without doubt, Annan added many and strongly value-charged notions to the approach, and influenced many more UN agencies to develop clear strategies in line with this approach.

The RBA has been portrayed as a “promise of re-politicising areas of development work that have become domesticated as they have been ‘mainstreamed’ by powerful institutions like the World Bank”.⁶⁶⁶ *Emelie Filmer-Wilson* describes how the traditional development theories were increasingly challenged: free-trade, investment flows and general economic growth had not proved to be the solution to wealth disparities and development failures and so a re-evaluation from within began to disclose the classic models as myths.⁶⁶⁷ Aspects of a human-centred, participatory, accountable and transparent process were perceived as fundamental to add, for instance in the view of the UN General Assembly.

Both the UNDP and institutions such as the Swedish International Aid Agency (Sida), have adopted the RBA for their development cooperation.⁶⁶⁸ Sida emphasises, among other things, a “shared pool of values based on the international conventions on human rights” and a “clear division of responsibility based in principle on the state’s obligations and the individual’s human rights”.⁶⁶⁹ Participation, accountability, non-discrimination and inclusion, and empowerment, are other key words, which approximates the general definition of ‘good governance’.

According to a definition by the UNDP, the RBA

“means a clear understanding of *the difference between right and need*. A right is something to which one is entitled solely by virtue of being a person. It is that which enables an individual to live with dignity. A right *can be enforced* and entails an *obligation* on the part of the government. A need, on the other hand, is an *aspiration* that can be quite legitimate but it is not necessarily associated with an obligation on the part of the government to cater to it. The satisfaction of a need cannot be enforced. Human rights *make the difference* between being and just merely existing” (emphasis added).⁶⁷⁰

⁶⁶³ Filmer-Wilson, p. 214; Nyamu-Musembi & Cornwall, p. 15.

⁶⁶⁴ UN/Annual Report of the Secretary-General on the Work of the Organization, para 173.

⁶⁶⁵ *Ibid*, para 174.

⁶⁶⁶ Nyamu-Musembi & Cornwall, p. 1.

⁶⁶⁷ Filmer-Wilson, pp. 214ff.

⁶⁶⁸ UNDP web page ‘The Human Rights Based Approach...’.

⁶⁶⁹ Sida/Ministry for Foreign Affairs, p. 1.

⁶⁷⁰ UNDP 2003, p. 1.

Within the normative UN framework, the Human Development Reports of 2000 and 2002 affirmed that – just like two sides of the same coin – human development is essential for realising human rights and human rights are essential for full human development. In the UNDP Human Development Report of 2006 it was observed that “[a]t a national level adherence to a rights-based approach requires the development of laws, policies, procedures and institutions that lead progressively to realization of the right to water... Mechanisms for redress and government accountability are also critical”.⁶⁷¹

2.6 *Criticism and problems*

2.6.1 **Issues of implementation and enforcement**

Considering the fact that economic, social and cultural human rights do not always materialise, in the sense that they are often neglected or violated, is it realistic to assert their *raison d'être*? Is it meaningful even to discuss such rights if they cannot, ultimately, be (fully) enforced? Should we conclude that economic, social and cultural rights are rights without remedies (cures, compensations, improvements)?⁶⁷²

The place of human rights in public international law means that what is legislated applies in a binding manner between sovereign and (formally) equal states. Predominantly today, it is the conduct of states within the international community that is regulated. However, international law is nowadays also a matter of entities endowed with ‘international personality’ – actors on the international scene. The UN, EU, WTO and other inter-governmental organisations are included here, and individuals are increasingly subjects of international law.⁶⁷³

The content of binding and non-binding parts of international law becomes part of domestic law in different ways. Simplified, international law is the result of a signature (by a legitimate representative of the state), ratification by the state’s parliament (or equivalent legislating authority) and lastly an express incorporation into domestic law. It is chiefly the latter step which can take various forms. Incorporation normally involves a legal reform because new content is added and/or existing law is amended. Reference can be made in the domestic legislation to international law. Further, domestic courts can choose to interpret treaties, declarations and resolutions as well as international customary law. The *use*, i.e. practical implementation, of international-law principles to fill gaps in domestic law, can also lead to the international law becoming binding.

International human rights are frequently considered a challenge to the sovereignty of states, and states’ inherent interests cannot, therefore, normally be relied on to ensure compliance. The enforcement mechanisms are flawed, not least at international level. Individuals, as victims and potential claimants, cannot themselves address the United Nations judicial framework (which includes the International

⁶⁷¹ UNDP 2006, p. 60.

⁶⁷² Cf. Holmes & Sunstein.

⁶⁷³ Cf. Wallace, pp. 1, 34f, 58f.

Court of Justice, ICJ – *Cf.* below on the complaints mechanism, though).⁶⁷⁴ Sanctions are not altogether absent from the UN system, though, but the word as such is not found in the UN Charter or other document.⁶⁷⁵ There are courts and tribunals with ‘global’ jurisdiction, including the ICJ in The Hague.⁶⁷⁶ Conventionally, though, it is the momentum of diplomacy, pressure, persuasion, reporting, and generally bad reputation within the UN framework as well as criticism from watchdog NGOs and the mass-media that may drive duty-bearing governments to conformity. The protection of exogenous state interests is, nevertheless, seldom enough of an incentive for governments to seek to fulfil welfare rights. As human rights are addressed mainly to state governments, they must be interventionist and ‘well funded’, not only in terms of budgetary allocations but also regarding commitment and political will. The capacity of governments as duty-bearers is further a function of taxpayers, who must be ready to ‘foot the bill’.⁶⁷⁷

A generally accepted postulate, according to Weston, is that human rights refer to a wide continuum of claims ranging “from the most justiciable to the most aspirational. Human rights partake of both the legal and the moral orders, sometimes indistinguishably. They are expressive of both the ‘is’ and the ‘ought’ in human affairs”. However, one of the questions that this in turn raises is; “What is the value of embracing nonjusticiable rights as part of the jurisprudence of human rights?”⁶⁷⁸ Attempts to formulate human rights may inescapably lead to assumptions about what social and other changes can thereby be accomplished. Looking at the human rights movement, though, the very formulation of rights can be functional to demand change, and a firm belief in the idea can entail a challenge of existing institutions, practices, and norms. This may thus empower citizens to act to vindicate their rights.⁶⁷⁹

These concerns have been partly addressed since the UN member states approved the draft for an Optional Protocol, containing a complaints mechanism to guarantee the rights of the ICESCR. This mechanism will allow victims of human rights violations to address the UN if they were not able to obtain relief in their country, as is already possible under the International Covenant on Civil and Political Rights. Adoption of the Protocol by the Human Rights Council and in the GA will make the rights under both Covenants equally enforceable.⁶⁸⁰

⁶⁷⁴ *Cf.* Kantsin. According to the Statute of the International Court of Justice, Art 34(1), “[o]nly states may be parties in cases before the Court”.

⁶⁷⁵ The UN can however take action against violation of agreements such as treaties: embargos, exclusion, suspension, expulsion, and military force are the means available.

⁶⁷⁶ The European Court of Human Rights – instituted by the Council of Europe to monitor compliance by Signatory Parties of the European Convention on Human Rights from 1950 – have no possibility of deciding on sanctions.

⁶⁷⁷ *Cf.* Holmes & Sunstein, p. 75.

⁶⁷⁸ Weston.

⁶⁷⁹ *Cf.* Donnelly, p. 12

⁶⁸⁰ UNHCHR, 2008.

The contemporary understanding of human rights addresses specific problems, and numerous rights are therefore listed in binding UN treaties. They have become the rights of the lawyer, rather than the abstract rights of the philosopher,⁶⁸¹ and are often referred to in domestic courts. Without doubt, though, human rights may have a moral foundation and a base in legitimacy but much of their practical impact depends on them developing into legally valid, positive rights.

2.6.2 Not a gift from the West

Finally, the conception of human rights is informed by a historical as well as a geo-cultural bias. An intrinsic problem with ‘our’ understanding of human rights as idea, ideology and concept is that they embody mainly a Western/Euro-American body of thought. For instance, the UN ‘Universal’ Declaration and the documents pursuing it are not easily reconciled by all non-Western scholars, and this has led to much criticism over the years. The discussions centre on the interpretation of what the concept of human rights means in a multi-cultural, diverse world, whether the idea is “genuinely universal” in its application or should involve a feature of relativism, and whether it “can be justified to people from many different cultural backgrounds”.⁶⁸² Add to this that words and concepts may not entail quite the same meaning in Hindu or Islamic law as in Western law, and theorising that treats generalisations across legal families, traditions, cultures and orders becomes problematic.⁶⁸³

The idea of rights that human beings are entitled to claim on moral grounds is, however, not a unique invention of the West. Such rights have links to gods, a prophet or the like – references to various kinds of ‘human right’ are found in several religious documents, such as the *Qur’an*. The Edicts of *Ashoka*, who propagated Buddhism in ancient India, emphasise the importance of governmental tolerance in public policy.

Amartya Sen has questioned the thesis that ‘Asian values’ are less supportive of freedom (political and civil liberties) and more concerned with order and discipline. Considering that about 60 percent of the world population lives in Asia, their prevailing values cannot be generalised. The championing of equality is of quite recent origin; “democracy and political freedom in the modern sense cannot be found in the pre-enlightenment tradition in any part of the world, West or East”.⁶⁸⁴ There is hence no ‘clash of civilizations’, and important antecedents of traditional commitments can be found plentifully in Asian as well as Western cultures.⁶⁸⁵ As *Upendra Baxi* notes, ‘human rights’ are not “the gifts of the West to the Rest”.⁶⁸⁶

⁶⁸¹ Nickel 2006, 2007, p. 7.

⁶⁸² Miller, p. 40.

⁶⁸³ Twining 2005b, p. 6.

⁶⁸⁴ Sen 1997, pp. 33, 37.

⁶⁸⁵ *Ibid*, p. 40.

⁶⁸⁶ Baxi 2002, p. vi.

2.7 *Summing up*

The idea of human rights can be described as a coherent framework for practical action. Together with the rights-based approach, the idea is compounded of visions, values, standards and principles of what development should strive to achieve. The UN Charter, the Universal Declaration of Human Rights and subsequent documents provide legally-binding human-rights instruments.⁶⁸⁷ It is, nevertheless, clear that the idea needs to be actively turned into a practical instrument or it may remain a vague unworkable concept. If one of the main ambitions of developing a human-rights doctrine is to set a (minimum) standard of ‘good government’, then an important endeavour is to push all governments towards fulfilment of such standards by means of persuasion, inducement and incentives.⁶⁸⁸ However, neither carrots nor sticks abound in the realm of human-rights law until implemented at national level. The problem of implementation is therefore often as much a part of the human-rights discussion as are the fundamental values they are to protect.

Some would say that when a human right is posited – in wordings as explicit as possible and preferably within the UN system – this provides for an additional context to which consideration must be taken by national governments and other decision-makers, but over and above what natural law endows. Be that as it may. There is a group of legally valid human rights, ratified by states, alongside a vivid discussion of what qualifies as a human right. This question is beyond resolution, and the approach taken here is that the international community has to deal with a set of concerns related to human well-being, including rights associated with access to fundamental resources – such as water.⁶⁸⁹

3 The human right to water

3.1 *Genesis and progress of the discourse*

In 1977, the Mar del Plata Action Plan was adopted by the UN Water Conference, and subsequently by the UN General Assembly. The document contains a Resolution on Community Water Supply, which states that “[a]ll people... *have a right* to have access to drinking water in quantities and of a quality equal to their basic needs” (emphasis added).⁶⁹⁰ The Mar del Plata Action Plan and Resolution was the first of its kind in focusing on access to drinking water and using the word *right* in this context.⁶⁹¹ The Resolution states that all people have a right to access to drinking water, and though the reference to ‘a right’ was embryonic and not ac-

⁶⁸⁷ Cf. UNDP 2003, pp. iv, 11.

⁶⁸⁸ Cf. Miller, p. 40.

⁶⁸⁹ Cf. Gleick 1999, p. 2; Nickel; Shue.

⁶⁹⁰ UN 1978, Ch. I, Res. II (a), p. 66; General Assembly Resolution 32/158.

⁶⁹¹ Cf. that the UN Conference on the Human Environment in Stockholm 1972 merely pointed out the necessity of ‘safeguarding’ water along with other natural resources.

accompanied by any lines of reasoning to substantiate the claim, it made a great impact on the discourse henceforth. It unquestionably represents the landmark from which the debate on a right to water could start,⁶⁹² but it contains no binding rules.

Despite the UN's subsequent International Drinking Water Supply and Sanitation Decade 1981-1990, 15 more years would elapse before the message of Mar del Plata was yet again on the table and only a few scholars would discuss the issue of water as a human or other *right*.⁶⁹³ In 1992, *Stephen McCaffrey* concluded that there is a legal right at least to water sufficient to sustain life, and that states must have "the due diligence to safeguard these rights" as a priority.⁶⁹⁴ Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in 1992, recalls that "the commonly agreed premise was that 'all peoples, whatever their stage of development and their social and economic conditions, have the *right* to have access to drinking water in quantities and of a quality equal to their basic needs'" (emphasis added).⁶⁹⁵ Again, this document is soft law; not binding as such.

A Sub-Commission of the Economic and Social Council adopted a Resolution on the 'Promotion of the realization of the right of access of everyone to drinking water supply and sanitation services' in 1997,⁶⁹⁶ and commissioned a working paper on the question.⁶⁹⁷ In a GA Resolution on the right of development, adopted in 1999, it was reaffirmed that in the full realisation of the right to development "the rights to food and clean water *are fundamental human rights* and their promotion constitutes a *moral imperative* both for national Governments and for the international community" (emphasis added).⁶⁹⁸ From the articulation used, it would seem as if there is consensus on the existence of 'a right to water'. The GA Resolution on the UN Millennium Declaration with the MDGs was adopted in the subsequent year,⁶⁹⁹ and it has thereafter been affirmed repeatedly that the attainment of goal 7/target 10 on access to safe drinking water is a prerequisite for attaining most of the other seven development goals and targets as well.

The next major step was the adoption by the UN Economic and Social Council's Committee on Economic, Social and Cultural Rights (CESCR, here: the Committee) of General Comment No. 15 in 2002.⁷⁰⁰ – The aim of this Committee is to provide guidelines on the interpretation of specific aspects of the human rights enshrined in the ICESCR. 'General Comments' aim to clarify the content of Covenant rights in more detail; they may outline potential violations of those rights and

⁶⁹² Cf. Salman & McInerney-Lankford, pp. 8f.

⁶⁹³ Gleick 1998, p. 489.

⁶⁹⁴ McCaffrey 1992, in Gleick, *ibid*.

⁶⁹⁵ Agenda 21, UNCED 1992b, Ch 18, para 47.

⁶⁹⁶ UN Economic and Social Council 1997.

⁶⁹⁷ UN Sub-Commission on Promotion and Protection of Human Rights 1997. *El-Hadji Guissé* was entrusted to draft the working paper.

⁶⁹⁸ UN General Assembly 1999, para 12(a).

⁶⁹⁹ UN General Assembly 2000.

⁷⁰⁰ UN Committee on Economic, Social and Cultural Rights 2002. Hereafter: General Comment No. 15.

offer advice to States-parties on how best to comply with their obligations under the treaties. General Comments cannot create new human rights; they are only interpretive, guiding tools and their contents do not, in themselves, constitute legally binding law. The Comments are, nonetheless, considered of authoritative value.

General Comment No. 15 (hereafter: the Comment) was adopted under the Committee's agenda item on substantive issues arising from the implementation of the ICESCR's Art 11 and 12. The Comment states that "[t]he human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights". The right therefore "entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses". Normatively, this involves "the right to maintain access to existing water supplies... [and] to a system of water supply and management".⁷⁰¹ It further stresses that water is a limited natural resource and a public commodity fundamental to life and health, and emphasises the duty of States Parties to progressively realise this right.

The Comment contains rather brief guidelines on what the right to water means. On several occasions, UN bodies such as the Human Rights Council have requested more detailed studies of how the right to water can be realised.⁷⁰²

Consequently, Draft Guidelines came from the Council's Special Rapporteur *El-Hadji Guissé* in 2005,⁷⁰³ and the UNHCHR reported 'on the scope and content of the relevant human rights obligation' in August 2007.⁷⁰⁴ The latter concludes that though *access to safe drinking water* is not explicitly recognised as a human right *per se* in human rights treaties,⁷⁰⁵ it has been acknowledged by two expert bodies,⁷⁰⁶ as well as by States Parties in several resolutions, declarations and plans of action – i.e. in both binding and non-binding documents. In March 2008, the Human Rights Council decided to appoint an independent expert on human rights *obligations* related to access to safe drinking water and sanitation.⁷⁰⁷

In addition, academic institutions, individual scholars and NGOs have issued reports, briefing papers, guidelines etc., in which the right to water is described and interpreted. Since 2004, the Centre on Housing Rights and Evictions (COHRE) has been one of the most important advocates. Its work has included the development of a comprehensive Manual on the Right to Water and Sanitation (described as a 'tool to assist policy makers and practitioners develop strategies for implement-

⁷⁰¹ General Comment No. 15, para. 1, 2, and 10.

⁷⁰² The requests related to drinking water supply as well as to sanitation measures.

⁷⁰³ UN Sub-Commission on Promotion and Protection of Human Rights 2005. The history behind appointing a Special Rapporteur and requesting him to investigate a 'right to access' is given in Tully 2005, p. 36.

⁷⁰⁴ UNHCHR 2007b.

⁷⁰⁵ UNHCHR 2007b, para 45.

⁷⁰⁶ *Viz.*, the Committee's General Comment and Guissé's Draft Guidelines, the Sub-Commission for the Promotion and Protection of Human Rights 2005.

⁷⁰⁷ UNHCHR 2008, web page 'Open-Ended Working Group...'; UNHRC 2008.

ing the human right to water and sanitation’), to be tested by several governments.⁷⁰⁸ The Manual will be referred to below.

Interest to contribute to the understanding of what a human right to water entails has thus been very great. The mentioned publications bring up and discuss domestic and regional legislations, national court decisions and water users’ perceptions of their access realities. A focus has been put on the meaning of the (corresponding) obligations, and what general hurdles are involved in attaining the right.

We can also note a third step in the discussions of a right to water: the 2006 UNDP Human Development Report, where an appeal was made to “make water a human right – and mean it!”⁷⁰⁹ According to the Report, the starting point and unifying principle for public action is the recognition that water (20 lpcd as a minimum) *is* a basic human right, and that the primary public policy challenge now is to give substance to the framework set by the Committee when adopting General Comment No. 15. The rights-based approach is confirmed, and it is stated that

“[e]xclusion from water and sanitation services on the basis of poverty, ability to pay, group membership or place of habitation is a violation of the human right to water. If water is a human right that governments have a duty to uphold, the corollary is that many of the world’s governments, developed as well as developing, are falling far short of their obligations. They are violating the human rights of their citizens on a large scale”⁷¹⁰.

It is added that at national level, laws, policies, procedures and institutions leading to a progressive realisation of the right are required. Mechanisms for redress and government accountability are equally important.

Most interesting in the Report’s short statement on the human right to water is perhaps how it fires back at sceptics:

“Some commentators see the application of rights language to water and other social and economic entitlements as an example of *rhetorical ‘loose talk’*. That assessment is mistaken. Declaring water a human right clearly does not mean that the water crisis will be resolved in short order. Nor does a rights framework provide automatic answers to difficult policy questions about pricing, investments and service delivery. However, human rights *represent a powerful moral claim*” (emphasis added).⁷¹¹

So far, so good. But what might really alarm those unwilling to recognise the justifiable aspects of talking of water as a human *right* is probably what follows:

“[Human rights] can also act as a source of empowerment and mobilization, creating expectations and enabling poor people to expand their entitlements through

⁷⁰⁸ The Manual was a product of collaboration between COHRE’s Right to Water Programme, the American Association for the Advancement of Science (AAAS) Science and Human Rights Programme, the Swiss Agency for Development and Cooperation (SDC), and the UN-HABITAT.

⁷⁰⁹ UNDP 2006, p. 60.

⁷¹⁰ *Ibid.*

⁷¹¹ *Ibid.*, pp. 60f.

legal and political channels – and through claims on the resources of national governments and the international community”.⁷¹²

This quotation pinpoints the strength of the word *right* – showing the potential in transformation from academic discourse to political dynamite.

We have yet to analyse what a human right to water entails, and on what legal bases the asserted claim rests. Before opening the description and discussion of today’s situation and discourse, the right to water will be assessed against a test in six steps for the justification of specific human rights, as proposed by Nickel.

3.2 *Applying Nickel’s test*

Is it necessary to justify special issues of concern before they are welcomed into the family of ‘human rights’? Nickel argues that it is, in order not to undermine the value of existing rights. He proposes a test in six steps which a ‘new’ right would have to satisfy.⁷¹³ Although this theory is not very elaborate in its present state, it is useful for thinking about water as a right.

1. Substantial and recurrent threats

The first step requires showing that people regularly experience threats (here: problems, injustices, dangers or abuses) in the area protected by the proposed right. The threat that makes a specific right necessary should be widespread and with some frequency; systematic in meaning built-in or inherent; and egregious as in seriously harmful.⁷¹⁴ There can be no social guarantees against every conceivable threat, nor is it rational to make guarantees against what is ineradicable at the time.⁷¹⁵

That some 1.2 billion people around the world, two thirds of whom in Asia, lack access to improved water sources constitutes a clear threat, problem, and injustice. According to the reports compiled by the IPCC, we will see an increasing freshwater scarcity in the future, extending the problem of lack of access to even more people.

2. The importance of what is protected

Here, a distinction is to be made between threats of discomfort and threats of serious indignity and injustice. The standard of important needs should be set quite high.

There is no doubt that lack of safe drinking water is a threat to health, life, and development potential. It constitutes a problem of serious indignity and injustice and has far-reaching consequences, including that girl children are frequently missing out on education. The problem is interlinked with lack of sanitation facilities, child mortality, general gender equality and several other targets included in the UN Millennium Development Goals.

⁷¹² *Ibid*, p. 61.

⁷¹³ Nickel 2007, pp. 70-79.

⁷¹⁴ Donnelly, p. 226, cited in Nickel 2007, p. 73.

⁷¹⁵ Shue, p. 17, cited in Nickel 2007, p. 71.

3. Can it be a universal right?

Today's concept of human rights has people as holders and beneficiaries and state governments as addressees. The right must be universally applicable. However, Nickel writes under Step 1 that a threat can be acknowledged as important to a certain part of the human population, such as elderly, women, people with handicaps and other groups. This should also apply when determining Step 3. Other typical characteristics of human rights also need to be satisfied, such as that the right is inherent and inalienable.

The right to water is based on an inherent need, fundamental to all human beings. It is thus genuinely universal. The right has state governments as the primary addressees.

4. Would some weaker norm be as effective?

If self-help, social aid or charity, and/or structural changes could be of assistance to eliminate or restrain the threat in a way that adequately responds to it, such might be preferable to enacting a 'right'. A right has the advantage of being firm, definite, and linked to duties, responsibilities and remedies. Once established as a human right, this normally also means greater political attention. One disadvantage is that rights risk being rigidly interpreted by bureaucrats.

The fourth step is crucial: it relates to much of the factual opposition to perceiving water as a right rather than a policy recommendation. In terms of self-help, we can start with how Nickel has argued that the way in which world hunger is normally framed is inadequate – hunger is something more than famine and starvation:

“[M]ost people who experience hunger and malnutrition *are functional*, are getting water and a little food, and are capable of doing things to find food such as moving or seeking work. If *we* think of hungry and malnourished people as *agents*, albeit agents with limited capacities and options, we will avoid assuming that self-help is impossible and that only donated foreign food or money can address the problem. Further, viewing hungry people as agents is a more respectful stance” (emphasis added).⁷¹⁶

The author's point is that a better answer than *providing* food and water is to see the local circumstances and “patterns of acting and living” among those suffering from malnourishment. The approach should not be to relieve normal adults of responsibility for self-provision; “welfare rights such as the right to adequate food will be intolerably expensive... if everyone simply receives a *free supply* of *all* vital goods” (emphasis added).⁷¹⁷ Hunger is a strong stimulus to action, Nickel continues; so “[f]or both practical and moral reasons it is important not to deny the capacity for action”.⁷¹⁸ However, where people have limited abilities or the circumstances are too harsh for them to gain sufficient access to safe food and water, they ‘have a

⁷¹⁶ Nickel 1996, p. 172.

⁷¹⁷ *Ibid*, p. 176.

⁷¹⁸ *Ibid*, pp. 180f.

claim' to assistance – a claim which should, nevertheless, not automatically fall on governments or international organisations.

Nickel calls attention to several important aspects of water stress and lack of access. Arguments in line with Nickel's are common, among bureaucrats and others. It is often expressed that everyone, as a matter of fact, 'has' water (and/or that people can afford to pay something for the service, should water be delivered to them) – in other words, that it is beyond doubt that people get access to some water somehow 'because otherwise they would die'. Against this can be held that almost 15 percent of the Indian population, or 170 million people, are estimated to lack access to an 'improved water source'.⁷¹⁹ Another way of formulating this is to say that this enormous group *has access* to some quantity of water, probably on a daily basis, but that this water and/or its source does not fulfil the criteria for being 'safe'. A large part of it may, for instance, be of such inferior quality that those consuming the water risk falling severely ill (mainly with diarrhoea and cholera), and even dying from the diseases.⁷²⁰

Clearly, a slow but positive development is taking place in this field, by way of awareness and education about health issues, technical solutions including infrastructure and improved sanitation facilities, general income growth, etc. Nonetheless, the problem is real: human beings do die from non-access to water and such risk-groups need to be assisted. This conclusion is not meant as a sign of disrespect towards capable, competent agents; it is delivered in acknowledgement of the poverty and power inequalities witnessed in our world.

In terms of what Nickel holds on voluntary social aid and charity, it is easily observed how numerous individuals and NGOs take on the task of working with water-related questions. Large sums of official foreign development aid and even private donations contribute to this work. At ground level, neighbours and community members often help out in times of scarcity – but there is a clear limit to these efforts on a large scale and on an everyday basis. For instance, very few NGOs probably have access to sources of available water on a larger, structural scale.

Besides, many UN members have signed to work according to the 'rights-based approach', meaning that the role of human rights is to be acknowledged when giving development aid.

Summing up this fourth step, we see that neither self-help, social aid nor structural changes seem to be the ultimate, fully adequate solution to the problem of lack of access to safe drinking water.

⁷¹⁹ Figure for India as of 2004.

⁷²⁰ 1.8 million people die every year from diarrhoeal diseases (including cholera); 90 percent of which are children under 5, mostly in developing countries. Some 88 percent of diarrhoeal disease is attributed to unsafe water supply, inadequate sanitation and hygiene. Improved water supply reduces diarrhoea morbidity by between 6 percent and 25 percent, if severe outcomes are included, according to WHO, web page 'Water, sanitation and hygiene links to health'. Infant mortality per 1000 live births in India is 60, (97 among the 20 poorest percent). Diarrhoea, often caused by unsafe drinking water or poor sanitation, is the second leading cause of death among children, UNICEF, web page 'India'.

5. The burdens are justifiable

According to Nickel, each of us is both a holder and an addressee of human rights and this in itself entails a problem, among other things because an extensive list of rights leads to a heavy burden on taxpayers. We will therefore want to ensure that these burdens are not distributed in ways that are severely unfair or economically destructive.

A human right to water for everyone will be burdensome on state governments. Ultimately, it will entail larger burdens on all taxpayers, and higher tariffs for those connected to the water distribution network to pay more for amounts over a certain reasonable threshold. To this is added a requirement to waste less, and that re-allocation will be necessary between water-using sectors, where industrial and agricultural users will need to develop a better water-efficiency in order to decrease their demands. This will be seen as severely unfair, and possibly even economically destructive, by individuals and lobby groups.

6. Feasible in a majority of countries

Nickel's test ends by asking whether the right can be successfully implemented "in an ample majority of countries today".⁷²¹ If this briefly formulated test fails, "the putative human right may simply fail to be a human right, or it may be a justifiable human right whose scope is narrower (and hence less demanding) than we initially thought [but it] may nonetheless be a justifiable *constitutional* right" (emphasis added).⁷²²

Nickel does not explain in any depth what would render the right 'successful' in the sense of the sixth step. His analysis of human rights instead continues with the statement that "[i]f we do not face the issue of feasibility at the justification stage, we will face it at the *application* stage" (emphasis added).⁷²³ I cannot agree with this sixth step as such. In traditional jurisprudence, a clear distinction is made between the discussion of a subjective right *per se*, and its implementation and enforcement. This distinction applies regardless of whether the right is enacted, existing and valid, or is still only at the stage of being discussed, drafted and proposed. Thus, the question of feasibility cannot determine the *justification* of the potential right, even if it can be foreseen that various difficulties may arise at the stage of enforcement and application.⁷²⁴ It is difficult to see the point of Nickel's last step to determine whether a certain threat ought to be protected as a human right.

Considering the five initial steps of Nickel's test, though, we can conclude that the right to water is without doubt *justifiable* as a *human* right.

⁷²¹ Nickel 2007, p. 79.

⁷²² *Ibid.*

⁷²³ *Ibid.*

⁷²⁴ The question of implementation can, nevertheless, be related to economic effectiveness calculated from a utility-point of view; for instance in comparison with *status quo* or with another right (e.g., one differently formulated). Cf. Faure & Skogh.

3.3 Further arguments for acknowledging a right

To Nickel's general test, we can add what Gleick sees as five reasons for explicitly acknowledging a human right to water:

- One reason is to encourage the international community and individual governments to renew their efforts to meet basic water needs of their populations – the discussion as such is extremely important as the issue otherwise risks being ignored at national or regional level;
- The second reason is that acknowledging such a right is much more likely to generate pressure to translate it into specific national and international legal obligations and responsibilities;
- Thirdly it maintains a spotlight of attention on the deplorable state of water management in many parts of the world;
- A fourth reason is to focus attention on the need to address international watershed disputes more widely and to resolve conflicts over the use of shared waters among all parties (this applies not only among nation-states, but also to such disputes as that over the Kaveri River in India); and
- Fifthly, explicitly acknowledging a human right to water can help to set specific priorities for water policy – meeting a basic water requirement for all humans that satisfying this right should take precedence over other water-management and investment decisions.⁷²⁵

A 'strong claim' on behalf of water as a human right – such as that it *exists* independently of an explicit legal enactment – certainly provokes "sceptical doubts and countering philosophical defences",⁷²⁶ but it is justified. The claim is based on the insight that water is a fundamental need and an absolute necessity for survival, and hence of indispensable value. (Access to) water is ultimately a matter of life and dignity, and must therefore be considered an absolute, inherent right, by nature, and one which is inherent in each and everyone of us. This right thus equates to an eternal and non-changeable principle. It depends on the merits of the principle rather than on its posited sources and social facts.

3.4 Bases for asserting a legal right to water

3.4.1 A self-standing right in positive law?

There are those who warn that truly fundamental human rights risk erosion if the right to water is given a status parallel to the existing rights. Were respect to be paid to all kinds of 'human right', this would inevitably lead to many balancing acts where governments must make priorities.⁷²⁷ Some commentators point out that the

⁷²⁵ Gleick 1998, p. 489.

⁷²⁶ Nickel 2006.

⁷²⁷ Tully 2005, p. 43, is one of few jurists who answer the question of a human right to water by stating that "the legally accurate answer is no". For a critique of this standpoint, cf. Langford.

right to ‘periodic holidays with pay’ is also listed as a human right – though far from realisable in most parts of the world.⁷²⁸

What, then, from the strictly legal point of view is at the heart of the debate in this regard? We have to trace a development over time. From the declarations and action plans reflected in, for example, the outcomes of Mar del Plata in 1977, via the UNDP’s Human Development Report of 2006 and beyond, we can conclude that a right to water does indeed exist in soft law. The question of a legal – binding – right to water is slightly more complicated and the approach towards it differs in a few respects. Despite the absence of court rulings,⁷²⁹ state practice in the sense of international customary law⁷³⁰ and explicit mention of a right to water in any of the general international human rights treaties,⁷³¹ it is common today to hold that there *is* a *self-standing* human right to water. The General Comment opened for commentators on the matter. The term ‘self-standing’ in the debate refers essentially to the Comment, para 3, which we will look at more closely. Some are of the perception that “[l]ifting the right to water from the shadow of other associated rights could be seen as awarding it long overdue standing to be considered as a self-standing right”.⁷³² Some assert that the human right to water deserves, and is better served by, a convention of its own.⁷³³

In relation to the question of a self-standing right to water, the process up to the formulation of the General Comment No. 15 is of some interest. This began in 1997 when the UN Sub-Commission on the Promotion and Protection of Human Rights requested an investigation into ‘the right of access’. A Special Rapporteur (Guissé) was appointed in 1998, mandated to compile periodic reports. *Stephen Tully* recounts how the Special Rapporteur “considered it desirable to identify an accept-

⁷²⁸ Art 7(d), ICESCR, states that “[t]he States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favourable conditions of work which ensure, in particular: ... (d) Rest, leisure and reasonable limitation of working hours and periodic holidays with pay, as well as remuneration for public holidays”.

⁷²⁹ The issue at stake in *Zander v. Sweden*, adjudged 1993 in the European Court of Human Rights, was not a material right to safe water but concerned the judicial guarantee to a fair trial.

⁷³⁰ McCaffrey 1992, quoted in Gleick 1998, p. 489.

⁷³¹ The London Protocol on Water and Health to the UNECE Water Convention is undoubtedly both a body of positive, binding law and a departure from (a right to) access to clean water for all. However, its jurisdiction is restricted to the European and a few additional countries. UNECE’s jurisdiction includes 56 member states: countries in Europe, the USA, Canada, Israel and the Central Asian republics. – Art 5 of the Protocol stipulates that “parties shall be guided in particular by the following principles and approaches: ... equitable access to water, adequate in terms both of quantity and of quality, should be provided for all members of the population, especially those who suffer a disadvantage or social exclusion”. Art 4(2) states that the “Parties shall, in particular, take all appropriate measures for the purpose of ensuring: (a) adequate supplies of wholesome drinking water”. Art 6(1) states that “the Parties shall pursue the aims of: (a) access to drinking water for everyone”.

⁷³² Scanlon, Cassar & Nemes, p. 20.

⁷³³ The NGO ‘The Green Cross’ – with former Head of State of the USSR, *Mikhail Gorbachev*, as its Founding President – campaigns that unless a relevant legal framework is established, the current situation will not be redressed.

able legal framework ‘since it would be impossible for individuals to call for this right without a legal text to support them’” and that the Committee “chose to locate a right to access under two provisions of the [ICESCR]”, *viz.*, Art 11 and 12.⁷³⁴

When adopting the General Comment, the Committee departed from Art 11(1) of the ICESCR, holding that it “specifies a number of rights emanating from, and indispensable for, the realization of the right to an adequate standard of living ‘including adequate food, clothing and housing’” (emphasis added).⁷³⁵ The Committee then held that

“[t]he use of the word ‘including’ indicates that this catalogue of rights was *not intended to be exhaustive*. The right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival. Moreover, the Committee has previously recognized that water is a human right... The right to water is also inextricably related to the right to the highest standard of health (art. 12, para. 1) and the rights to adequate housing and adequate food (art. 11, para. 1). The right should also be seen in conjunction with other rights enshrined in the International Bill of Rights, foremost among them the right to life and human dignity” (emphasis added, footnotes omitted).⁷³⁶

What is noteworthy here is how water is referred to as instrumental in its own right for other rights – ‘essential for securing’, as the Committee articulates it. It has a value as an independent right.

The alternative to viewing the right as self-standing is to either perceive it as derivable from existing rights, or as sufficiently dealt with under the rights to housing and health. It could also be argued that the word ‘water’ needs to be spelt out, and thus added to the ICESCR. The latter approach would, not least, function so as to prevent water from being neglected in relation to rights such as food.

Gleick is of the opinion that the right to water is a ‘derivative’ right; it can be derived from other human rights pronounced explicitly.⁷³⁷ In an article published in 1998, he pleaded for ‘the human right to water’, substantiating this claim with an account of the process underlying the drafting of the Universal Declaration in 1947-1948.⁷³⁸ Though the Universal Declaration is not a binding document, its content and the general backing it received among the international com-

⁷³⁴ Tully 2005, p. 36, with references.

⁷³⁵ General Comment No. 15, para 3.

⁷³⁶ General Comment No. 15, para 3, with references to General Comments No 6 (of 1995) and 14 (of 2000). – Art 11(1) states that “[t]he States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent”. According to Art 12(1), “[t]he States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health”.

⁷³⁷ Gleick 1998, p. 490, 2000, p. 5, 2007, p. 2.

⁷³⁸ Gleick 1998, pp. 489ff., 2000, pp. 5f.

munity were important foundations of the ICESCR and the Covenant on Political and Civil Rights when adopted in 1966. Gleick writes about the final debate of the Declaration, and especially the provision stating that “everyone has the right to a standard of living, *including* food, clothing, housing and medical care, and to social services, adequate for the health and well-being of himself and his family” (now Art 25, emphasis added). Gleick continues that

“the emphasis was refocused from providing a general standard of living to a more encompassing right to health and well-being. Why was water not included in this list? The debate around the wording makes clear that the specific provisions for food, clothing, housing, and so on were *not meant to be all-inclusive*, but representative or indicative of the ‘*component elements* of an adequate standard of living” (emphasis added).⁷³⁹

In Gleick’s view, therefore, it is unfeasible to satisfy the standards of the present Art 25 with less than a sufficient quantity and quality of water available; some basic amount of clean water is also necessary to prevent death from dehydration, reduce the risk of water-related diseases etc. This is a fact long recognised by UN bodies such as the WHO. Gleick concludes that “[*l*]ogic further suggests that the framers of the [Universal Declaration] considered water to be one of the ‘component elements’ – as fundamental as air” (emphasis added).⁷⁴⁰ As additional support for this conclusion, he holds that the Declaration also explicitly mentions rights “that must be considered less fundamental than a right to water” (such as the right to work). Art 25 *was intended* to include the right to a basic water requirement.⁷⁴¹

Apart from referring to the same legal bases as the Committee later did, Gleick also adduces Art 12(3) of the ICESCR, which concerns the prevention, treatment and control of diseases; and Art 6 of the Covenant on Civil and Political Rights, which states everyone’s inherent right to life. Thus the importance of water must be inferred as a derivative right necessary to meet this provision.⁷⁴² – To Gleick’s arguments we can add those of *Malcolm Langford*, who has summarised the background debates on Art 11. He seems to conclude that it was not proposed to explicitly list water, but that there is little guidance to find on the question.⁷⁴³ McCaffrey concluded in 1992 that “if there is a human right to water under the basic instruments of international human rights law... it must be inferred”.⁷⁴⁴

Not everyone considers the self-standing right to water to be a good idea. Langford describes how a number of states have, during various meetings of the international community, strongly lobbied against an inclusion of such a right, or mention of it, in declarations and other outcomes. This principally concerns those states that adopt hostile attitudes to some or all aspects of economic and social rights: the

⁷³⁹ Gleick 1998, p. 490, with reference to the Yearbook of the United Nations, 1956, p. 216.

⁷⁴⁰ *Ibid*, p. 491.

⁷⁴¹ Gleick 2000, p. 6.

⁷⁴² Gleick 1998, p. 492.

⁷⁴³ Langford, pp. 440ff., with reference, i.a., back to Gleick, *ibid*.

⁷⁴⁴ McCaffrey 1992, in Salman & McInerney-Lankford, p. 57.

U.S.A., Japan, China and Australia, a group of countries whose influence should not be underestimated.⁷⁴⁵ Canada should also be added to the list.

The reluctance can partly be seen against how a concrete consequence of regarding (access to safe drinking) water as a self-standing right is the possibility to appoint a Special Rapporteur for the Commission of Human Rights, mandated to investigate, monitor and recommend solutions to the ensuing problems in an independent manner. Currently, there is no-one designated to follow Guissé. As noted above, the Council adopted in March 2008 a resolution which does not refer to water as a *right*, but speaks only of ‘access’. It appointed an independent expert, for a period of three years, on the issue. A separate expert on the matter is, nonetheless, not of the same dignity as a Rapporteur, and will not have the same mandate. The independent expert is to prepare a compendium of best practices and make recommendations to states.⁷⁴⁶

The resolution appointing an expert was adopted by consensus in the Human Rights Council. The resolution ‘emphasises’ that governments have *obligations to ensure access* to safe drinking water and sanitation under international human rights law. COHRE has commented upon the fact that no ‘right’ was acknowledged:

“Although the Council did not proceed as far as it could have, its creation of an Independent Expert mechanism and clear recognition of human rights obligations relating to water and sanitation are important breakthroughs. The resolution firmly places the right to water and sanitation on the Council agenda”.⁷⁴⁷

If the right to access to safe drinking water is not explicitly mentioned in a legally-binding document of international law, can it still be a human right in the sense of positive law? The answer comes down to what can reasonably be deduced – derived – by any established method of interpretation. Before proceeding to other legal foundations of relevance to seeing access to water as a self-standing right, this jurisprudential facet needs to be developed.

3.4.2 Interpreting ‘including’

The Vienna Convention on the Law of Treaties, 1969, lays down general and special rules for how to construe international law such as the ICESCR.⁷⁴⁸ Langford has summarised the relevant provisions (Art 31-32) in relation to a right to water:

“The official rules of interpretation of [international law] contain a number of interpretive criteria that are biased in favour of a *purposive approach* that takes account of the *evolution* of international law... Use of materials that concerns the drafting of a treaty is strictly circumscribed” (emphasis added).⁷⁴⁹

⁷⁴⁵ Cf. Langford, p. 445.

⁷⁴⁶ UNHRC 2008.

⁷⁴⁷ COHRE 2008b.

⁷⁴⁸ Art 31, the Vienna Convention on the Law of Treaties, 1969, United Nations, Treaty Series, vol. 1155, p. 331.

⁷⁴⁹ Langford, p. 435.

The Committee made an interpretation of the ICESCR, foremost its Art 11(1), but it is not possible to discern whether ‘subsequent agreements’ or ditto practices were investigated. There is little binding law in respect of a human right to water (see next sub-section) and there is hence little more than the provisions of and Preamble to the ICESCR to construe.

Applying a textual reading, the ordinary meaning of the term ‘including’ should be ‘to contain or comprise as part of a whole’,⁷⁵⁰ thus antonymous to exhaustive and all-embracing. The Committee was however justified in taking a second, supplementary step to confirm its understanding of the word ‘including’, and to make the result less obscure. It seemingly added an intentionalist interpretation (that the catalogue of rights in Art 11(1) was not *intended* to be exhaustive) – possibly concluded from the drafting process, just as Gleick advocated.

However, there are no references to records, statements or other material that could show the foundation of this reasoning, i.e. that draw on how the drafters of the ICESCR made the decision in relation to Art 11(1).⁷⁵¹ Criticism for ‘interpretative creativity’ is thus not wholly unwarranted – but then, all posited law is the result of human construction.⁷⁵²

A related question, though, is whether the Committee should have made a (more) *restrictive* construction of what rights Art 11 recognises. Tully is of this view, holding that ‘including’ is “a self-evidently imprecise term leading one to speculate on the number and nature of other characteristics essential to an adequate standard of living but not explicitly guaranteed by the Covenant. Does General Comment No. 15 herald rights to access electricity, the internet or other essential civic services such as postal delivery?”⁷⁵³ Tully’s construction can be dismissed as sheer nonsense. There will hardly be any flood of new rights only because the special status of water is recognised. As Langford stresses, the Committee’s message is that water is a prerequisite for the fulfilment of many other rights. Foremost, water is indispensable for human survival on Earth: “[U]nclean water is essentially responsible for the deaths of approximately 3900 children a day. Water is patently not comparable or reducible to postal delivery and internet access” (footnote omitted).⁷⁵⁴

We can also note how COHRE has aimed at the words ‘adequate standard of living’ in Art 11(1), holding that “[i]n light of the fundamental importance of water for human survival, well being and dignity, it would be impossible to maintain that

⁷⁵⁰ Merriam-Webster’s dictionary.

⁷⁵¹ This is missing also in the reports from Guissé, UN Sub-Commission on Promotion and Protection of Human Rights 2002, 2005.

⁷⁵² The political considerations and negotiations behind the decision-making of various UN bodies are nowadays made public to a larger degree than previously, making it possible to follow the stances taken by different states. For instance, the debates regarding access to water etc. in the Human Rights Council (31st Plenary Meeting, 15 March 2006) can be watched as a live webcast on <http://www.un.org/webcast/unhrc/archive.asp?go=061127>.

⁷⁵³ Tully 2005, p. 37.

⁷⁵⁴ Langford, p. 437.

an individual lacking access to minimum supplies of safe water for basic needs could enjoy an adequate standard of living”. COHRE also reminds of, with reference to the Vienna Convention, that the community of states has adopted unanimously international declarations expressing that the right to an adequate standard of living includes water and sanitation, in addition to food, clothing and housing. The declarations referred to are the Programme of Action of the International Conference on Population and Development (Principle 2), and the Habitat Agenda (Principle 11), decided at the 1994 International Conference on Population and Development (ICPD), Cairo, and the 1996 Second UN Conference on Human Settlements (Habitat II), Istanbul, respectively.⁷⁵⁵ Such declarations amount to ‘subsequent agreement between the parties regarding the interpretation of the treaty’ according to the Vienna Convention (Art 31(a)).

3.4.3 Additional legal bases

In addition to Art 11 and 12 of the ICESCR, there is the likewise legally binding International Covenant for Civil and Political Rights.⁷⁵⁶ It implicitly recognises a right to water, although perhaps less strongly than the ICESCR, by stating that “every human being has the inherent right to life” (Art 6(1)). It is to be interpreted expansively, requiring that states adopt positive measures in order not to deprive anyone of the right to life.⁷⁵⁷ Protection against arbitrary and intentional denial of access to sufficient water would thus be covered under Art 6.

The (self-standing) right to water also draws a legal base from two of the six core human-rights treaties in the corpus of international human rights law. The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), 1979, sets out the following:

“State-parties shall take all appropriate measures to eliminate discrimination against women *in rural areas* in order to ensure, on a basis of equality of men and women, that they participate in and benefit from rural development and, in particular, shall ensure to women *the right...*”

(h) To enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and *water supply*, transport and communication” (Art 14(2)) (emphasis added).

The Convention on the Rights of the Child, 1989, contains this provision:

“States-parties shall pursue full implementation of the right of the child to the enjoyment of the highest attainable standard of health... and, in particular, shall take appropriate measures...”

(c) to combat disease and malnutrition... through the *provision of* adequate nutritious foods and *clean drinking water*” (Art 24(2)) (emphasis added).

⁷⁵⁵ Cf. COHRE 2008b.

⁷⁵⁶ UN General Assembly 1966a.

⁷⁵⁷ Cf. Gleick 1998, pp. 492f.

As can be seen, the Convention against Discrimination of Women is relevant in regard of water supply in rural areas only. The right of provision of water to benefit children is more broadly regulated and the particular mention of disease and malnutrition reminds one of how Art 12(2)(c) of the ICESCR regulates the prevention of epidemics, etc. Whereas the wider articulation in the Convention on the Rights of the Child should also be applicable to taking preventive steps, there is no scope to enlarge the interpretation of the CEDAW to include even water for all women's needs. These two conventions are far from all-encompassing in laying down a human right to water. *Nonetheless*, rural women and children may compose the majority of the group lacking access to safe water. A self-standing right applies at least to them.

Other conventions also mention water,⁷⁵⁸ and are legally binding upon the States Parties that have signed and ratified them. However, the group comprised is fairly small. In this light, the General Comment clearly adds a normative framework for States Parties, albeit still non-binding in the strict legal sense.

3.4.4 Right to water as customary law

Some scholars hold a self-standing right to water as acknowledgeable only if it attains the status of international customary law. The criteria involve, as mentioned in the previous chapter, a general, consistent and widespread *state practice* in the meaning of repetition of similar international acts over some time. The acts must be taken by a significant number of states, and not be rejected by a significant number of states. Those acts must occur out of sense of obligation (*opinio juris*).

What the state practice would have to consist in cannot be laid down in detail at this stage, nor can it be said exactly how long time such practice would have to endure, or how many states must practise a right to water. In any event, though, it would not suffice that a nation state communicates its acknowledgement of the right but does little more to establish its commitment. A range of obligations need to be met. With a prudent estimation, it seems unlikely that the right to water would comply with the criteria in the foreseeable future.

3.5 Substantive content of the right to water

3.5.1 Basic need requirements

Leaving for now the question of what status the right to water has, we turn to investigate what has been concluded on the content of the right in terms of quantity and quality. The General Comment No. 15 (2002), the draft guidelines from the Special Rapporteur (2005) and the subsequent Report from the High Commissioner (2007) all bring up the *right* to water as well as the *obligations* connected to the implementation of such a right.

⁷⁵⁸ Foremost here are two Geneva Conventions of 1949 relating to the treatment of prisoners and civilians in times of war.

The Comment delimits its applicability to water for *personal and domestic uses*, uses ‘ordinarily’ defined as drinking, personal sanitation, washing of clothes, food preparation, personal- and household hygiene. ‘Drinking’ means water for consumption through beverages and foodstuffs.⁷⁵⁹ The water supplied to each person must be sufficient and continuous, where the quantity should correspond to WHO guidelines.

There are several definitions of the notion ‘access to safe water’, of which perhaps the most frequently used is from the WHO and UNICEF jointly. Definitions sometimes include considerations of quantity, with the acceptable limit ranging from 3 to 50 lpcd. (It should be remembered here that ‘access’ should be distinguished from ‘consumption’.) According to *Guy Howard* and *Jamie Bartram*, whose detailed study of domestic water quantities etc. for the WHO in 2003 is regularly cited in this context, the minimum that human beings need is 7.5 litres of safe water each day, of which 2 lpcd is to support food preparation and the remainder is for drinking.⁷⁶⁰ To this is added water for basic health protection. Experience shows, according to Howard and Bartram, that this together is equivalent to a water collection of less than 20 lpcd.⁷⁶¹

Gleick compiled estimations that were available by the early 1990s, and concluded that the minimum water requirement for fluid replacement was about 3 lpcd under average temperate climate conditions and with normal activity, whereas the estimate for tropical and subtropical climates was about 5 lpcd.⁷⁶² This amount sufficed for physiological survival, but Gleick added that a minimum requirement also had to be defined for providing basic sanitation services. A variety of methods and techniques being available, “additional health benefits are identifiable when up to 20 [lpcd] of clean water are provided”.⁷⁶³ Water requirements for hygienic needs should then be added, as well as water necessary for food preparation. The total amount recommended is 50 lpcd.

For comparison, we can look at how the WHO and NGOs such as ‘The Sphere Project’ and ‘The Water, Engineering and Development Centre’ (WCED) have estimated the quantities of water needed for domestic use in emergencies (such as refugee camps). As much as 7 lpcd is then seen as a minimum allocation – for short-term ‘survival’; this is “sustainable for only a few days” – but this quantity also includes cleanup from food preparation.⁷⁶⁴ An adaptation of *Abraham Maslow’s* hierarchy pyramid is used to show how quantitative needs grow with the time a

⁷⁵⁹ General Comment No. 15, para. 12(a) and footnote 13.

⁷⁶⁰ This is an estimate based on requirements of lactating women who engage in moderate physical activity in above-average temperatures. It will however not account for those living in unusually hot environments or engaged in strenuous physical activity where minimum needs of water for drinking may be considerably greater. Howard & Bartram, pp. 7, 9.

⁷⁶¹ *Ibid*, p. 23.

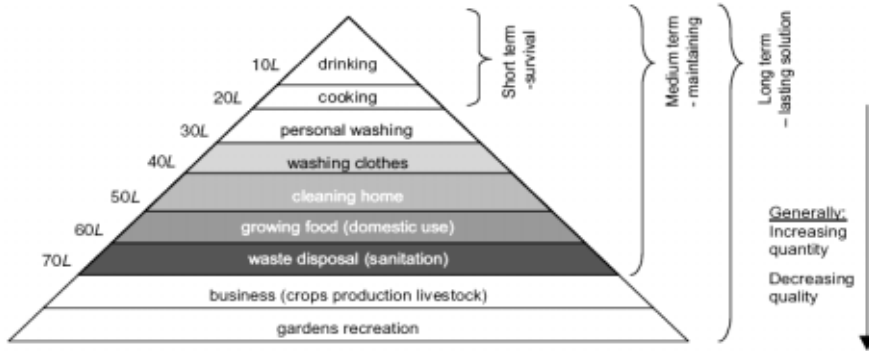
⁷⁶² Gleick 1996, p. 84 with references.

⁷⁶³ *Ibid*, p. 85 with references.

⁷⁶⁴ WHO 2005b, p. 3.

person stays in one location. The base of the pyramid is equal to the needs of ordinary society, i.e., a non-emergency situation:

Figure 3. Hierarchy of water requirements



From WHO 2005b.

According to the WHO estimates, the medium-term allocation must be 15-20 lpcd, a quantity seen as sustainable for a few months. Ultimately, lpcd quantity will depend on such factors as climate and cultural practices as well as each person's age and gender.⁷⁶⁵

The WHO has attempted a shift in the definition of 'access to safe water'. Instead of only gathering information from water providers via questionnaires, consumer-based information is now included. The current approach uses household surveys in an effort to assess the actual use of facilities. Data are reported for populations with and without access to an 'improved' water source/ improved technologies (Table 3 below).⁷⁶⁶

The definition of 'improved' water source/technology includes certain criteria: (i) a significantly increased probability that the water is safe, (ii) that it is more accessible, and (iii) some measures against contamination are being taken to protect the water source.⁷⁶⁷ However, that a water supply is 'improved' does not guarantee water that is 'safe' or that it complies with e.g. the WHO's own guidelines for drinking-water quality.⁷⁶⁸ It only assumes a greater likelihood that a source is clean in comparison with those characterised as unimproved, because of the level of technology used.

⁷⁶⁵ WHO 2005b, p. 3.

⁷⁶⁶ WHO/UNICEF 2005; Pacific Institute for Studies in Development, Environment, and Security; and the World Resources Institute.

⁷⁶⁷ Hutton & Haller.

⁷⁶⁸ WHO 2006

Table 3: Sources of water

<i>'Improved'</i> water sources	<i>'Unimproved'</i> sources
Household connection*	Unprotected dug well
Public standpipe/tap	Unprotected spring
Own borehole/tubewell	River, pond, etc. (surface water)
Protected dug well	Vendor-provided water
Protected spring	Bottled water
Rainwater collection (Bottled water)**	Tanker-truck water

*From WHO and UNICEF.*⁷⁶⁹

* Connection piped into dwelling, yard, or plot.

** Bottled water is considered as 'improved' technology only when the household uses water from an improved source for its cooking and personal hygiene.⁷⁷⁰

As can be seen, the WHO and UNICEF do not currently regard vendor-provided water as coming from an 'improved' source. This is because

“the regulatory framework to ensure water safety from vendors is absent in most countries and no other guarantees can be given that the water purchased is from a safe source. In addition, the minimum quantities of water required for drinking and basic hygiene are often not affordable where vendors are the suppliers of water. If better regulation and the development of new partnerships bring the assurance of adequate quality, and sufficient quantity, this criterion will need to be modified”.⁷⁷¹

The World Bank defines 'safe access' as the number of people who have reasonable means of getting an adequate amount of water that is clean and safe for drinking, washing and essential household activities, expressed as a percentage of the total population. This is believed to reflect the health of a country's people and also the country's ability to collect, clean, and distribute water. Water is safe or unsafe depending on the amount of bacteria in it. An 'adequate amount' means enough water to satisfy metabolic, hygienic and domestic requirements, usually about 20 lpcd. However, the expression 'reasonable access' also exists in the World Bank's terminology; in urban areas it means that there is a public fountain or water tap located within 200 m of the household. In rural areas, it implies that members of the household do not have to spend excessive time each day fetching water.⁷⁷² For wa-

⁷⁶⁹ WHO/UNICEF, 2005, p. 6; 2006, p. 4. As household surveys are not conducted regularly in many countries, direct comparisons between countries become difficult. The same applies over time within the same country. Direct comparisons are additionally complicated by the fact that these data hide disparities between regions and socioeconomic classes.

⁷⁷⁰ WHO/UNICEF 2006, p. 4.

⁷⁷¹ WHO/UNICEF 2005, p. 7.

⁷⁷² The World Bank web pages 'Access to Safe Water', 'Sources of water'.

ter users to have ‘reasonable access’ according to WHO/UNICEF, there must be availability of at least 20 lpcd from an improved source within one km of the user’s dwelling. The Asian Development Bank has adopted the same criteria.

3.5.2 Physical accessibility

In practice, accessibility is a matter of, among other things, household connections, public standpipes/-posts, kiosks within a certain distance, and the frequency of private water delivery through tankers, bullock carts and the like. This issue relates to infrastructure requirements in general and capacity within the home to store fresh water; family size and who in the family fetches the water. Especially in slum areas, this accessibility is more often than not under-dimensioned, non- or badly-functioning, or the delivery is simply shut off. The question of affordability adds to these obstacles, or constitutes the very problem (see sub-section below).

The Comment obliges national governments to ensure that water and adequate water facilities and services are accessible to everyone, i.e. within safe physical reach of all sections of the community, and without discrimination.⁷⁷³ This also means that sufficient and acceptable water must be within or in the immediate vicinity of households as well as of educational institutions and workplaces.⁷⁷⁴ For instance, in urban areas a person is assumed to have access to safe water if there is water within 200 m of her/his dwelling, through a tap or a public standpipe.⁷⁷⁵ Special attention should be given to, among others, those living in arid and semi-arid areas. The availability of drinking water within the household through a household connection (including water piped to the yard or plot) provides the highest attainable level of service and normally allows the use of drinking water in such quantities as fulfil the householders’ health and hygiene requirements.⁷⁷⁶ Where a drinking-water source is not available within the property and the householders have to walk over five minutes to get their water, it is likely that they will not use more than the very basic quantities required for hygiene, drinking and cooking.⁷⁷⁷ Again, we can compare with what Howard & Bartram suggested, as this table is often reproduced:

⁷⁷³ General Comment No. 15, para 12(c)(i),(iii), 13-16.

⁷⁷⁴ General Comment No. 15 para 12 (c)(i). A ‘household’ includes permanent or semi-permanent as well as temporary halting sites, *ibid*, note 16.

⁷⁷⁵ Pacific Institute for Studies in Development, Environment, and Security. *Cf.* Zérah 2000, p. 296.

⁷⁷⁶ On-plot access is typically about 50 lpcd, WHO 2003, p. 14.

⁷⁷⁷ WHO/UNICEF 2006, p. 15.

Table 4. Summary of requirement for water service level to promote health.

Service level	Access measure	Needs met	Level of health concern
No access (quantity collected often below 5 lpcd)	More than 1000m or 30 minutes total collection time	Consumption – cannot be assured. Hygiene – not possible (unless practised at source)	Very high
Basic access (average quantity unlikely to exceed 20 lpcd)	Between 100 and 1000m or 5 to 30 minutes total collection time	Consumption – should be assured. Hygiene – hand-washing and basic food hygiene possible; laundry/ bathing difficult to assure unless carried out at source	High
Intermediate access (average quantity about 50 lpcd)	Water delivered through one tap on plot (or within 100m or 5 minutes total collection time)	Consumption – assured. Hygiene – all basic personal and food hygiene assured; laundry and bathing should also be assured	Low
Optimal access (average quantity 100 lpcd and above)	Water supplied through multiple taps continuously	Consumption – all needs met. Hygiene – all needs should be met	Very low

Howard & Bartram, p. 22.

In these calculations, it could seem as if only domestic needs are accounted for. Howard & Bartram focused on what is needed for health and household in terms of drinking water, food preparation, hygiene and other health issues, cleaning, etc. However, they also considered what are termed ‘productive uses’ of domestic water at household level, which includes brewing, small-scale food production and household construction in low-income areas. They note that direct *health* benefits from such uses are derived from, e.g., improved nutrition and food security from garden crops that have been watered; whereas indirect health benefits arise from improvements in household wealth. Not the least important, Howard & Bartram write that in urban areas this is often essential as it may offer additional income from small-scale sales (processing food for retail probably being the most common). It is, nonetheless, spelt out that these economic uses may compromise the ability of the water resources to meet basic needs, either through over-consumption [and/] or through uses leading to quality deterioration.⁷⁷⁸

What seems to be missing in the estimations of basic needs in terms of drinking water, whether defined as water for personal and domestic uses (as in the General Comment) or also for garden crops and the like (*cf.* Howard & Bartram), is a differentiation between people situated in rural, peri-urban and urban areas. Neither does the scope of this study permit this question to be discussed, though.

3.5.3 Access operationalised via law

To be effectively achieved, rights first need to be operationalised into something defined and preferably also measurable. The content of the right to water as described above is a starting point, but must be specified in greater detail. By framing the rights, the relevant obligations can more easily be pictured and addressed. At some point, commitment to ‘make water a human right – and mean it’ must manifest itself via non-binding objectives, policies, strategies, and planning as well as in

⁷⁷⁸ Howard & Bartram, pp. 23f.

hard instruments such as binding and enforceable regulation. The recognition of the right to water in the domestic legal system has a value in itself: the political will becomes transparent and accountability increases.

The Comment reminds of the ICESCR and states that

“[i]n accordance with article 2, paragraph 1, of the Covenant, States parties are required to utilize ‘all appropriate means, including particularly the *adoption of legislative measures*’ in the implementation of their Covenant obligations (para 45) (emphasis added).

Existing legislation, strategies and policies should be reviewed to ensure that they are compatible with obligations arising from the right to water, and should be repealed, amended or changed if inconsistent with Covenant requirements” (para 46).

In the Sub-Commission’s report, the legal instrument is also mentioned:

“States should at all levels of government: ...

Formally recognize the right to water and sanitation in relevant laws and regulations” (2.3)(c) (emphasis added).⁷⁷⁹

These requirements are expressed vaguely, with the result that States Parties have chosen various ways of articulating the right to water in domestic law, in those rare cases where it is implemented. COHRE mentions some twenty countries which have to date implemented the right or taken steps to revise their constitutions or laws: Belgium; Burkina Faso; Angola; Uganda; Ukraine; South Africa and Ecuador; the Democratic Republic of Congo; France; Indonesia; Mauritania; Mozambique; Namibia; Nicaragua; Paraguay; Uruguay; and Venezuela; Honduras; Peru; Algeria; Uruguay; Kenya; and Guatemala. Several other States Parties have established legal duties to provide access to water and sanitation. Furthermore, COHRE notes that in India, Pakistan and Costa Rica courts interpret the constitutional right to life as to include the right to clean water and sanitation.⁷⁸⁰ – The situation in India is analysed in detail in Chapter VIII.

It is certainly important that the right to water and the ensuing obligations are regulated. In general, regulation needs to be deliberate, clear and sufficiently precise, targeted toward realisation, and yet flexible relative to prevailing conditions. The rights, in order to be proper and effective, must be coupled with legal remedies such as penalties for non-compliance. Enactment, or reform of the existing legal framework, should be subject to democratic participation. Water issues must further receive due priority in financial budgets at all levels of government.

More specifically, regulation needs to contain rules on such components as licence-seeking procedures prior to the start of harmful activities, a scientifically-based Environmental Impact Assessment and public participation as bases for de-

⁷⁷⁹ UN Sub-Commission on Promotion and Protection of Human Rights 2005.

⁷⁸⁰ COHRE *et al.*, p. 33; *cf.* COHRE 2008a, p. 59. These data have not been counter-checked for the present study.

cision-making, regular and independent monitoring, possibly also self-regulation and control. Especially in areas where water is already scarce, policy-makers and legislators must apply a precautionary approach. It is important that misuse of water is prevented, and that conservation and due care are promoted at all levels and by all water users. For the right to be realised, the planning of provision and distribution also requires accurate statistics and data on the availability of freshwater. As we will see in Chapter VIII on the conditions and situation in Bangalore, these factors can prove difficult.

3.6 Duties and obligations

3.6.1 The state's responsibilities

States, as parties to the ICESCR, are accountable for implementation of the Convention or, strictly speaking, for 'achieving progressively the full realisation' of it. This obligation is regulated in the ICESCR itself⁷⁸¹ and further interpreted in the Comment in respect to water. Apart from legislative steps to ensure implementation, the necessity to establish institutional responsibility, accountability mechanisms and effective judicial or other appropriate remedies is another substantive obligation enumerated.⁷⁸² The remedy for victims of violation of the right to water can be an entitlement to adequate reparation, such as restitution, compensation, and guarantees of non-repetition.⁷⁸³

According to the Comment, the ICESCR imposes immediate obligations on the states in relation to the right to water. Steps towards full realisation must be deliberate, concrete, expeditious and effective.⁷⁸⁴ In the High Commissioner's view, there are 'clear' obligations on states to fulfil the right to drinking water. The scope for interpretation of these obligations is nevertheless vast:

"It is up to each country to determine what this sufficient amount is, relying on guidance provided by WHO and others... States should take steps to ensure that this sufficient amount is of good quality, affordable for all and can be collected within a reasonable distance from a person's home".⁷⁸⁵

Terms such as 'sufficient', 'steps', 'good quality', 'affordable', 'reasonable', etc. are deliberately left open to discretionary interpretation, acknowledging the sovereignty of each independent state to decide on internal matters such as water resources and health.

⁷⁸¹ According to ICESCR, "[e]ach State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures" (Art 2 (1)).

⁷⁸² General Comment No. 15, para 45-59.

⁷⁸³ *Ibid.*, para 55; *cf.* the Rio Declaration, Principle 10.

⁷⁸⁴ General Comment No. 15, para 17-18.

⁷⁸⁵ UNHCHR 2007b, para 47.

In line with the ICESCR, the Comment speaks of ‘progressive realisation’, acknowledging that this venture must be seen as a long-term objective. COHRE *et al.* hold that the perfect can be the enemy of the good, and draw evidence from the *Grootboom* case in South Africa. The Constitutional Court in this case reviewed a particular housing policy that aimed to ensure quality housing for all, but which did not even provide basic emergency housing for the homeless. The Court held:

[T]here is no express provision to facilitate access to temporary relief for people who have no access to land, no roof over their heads, for people who are living in intolerable conditions... These are people in desperate need. Their *immediate need can be met* by relief short of housing which fulfils the requisite *standards* of durability, habitability and stability” (emphasis added).⁷⁸⁶

COHRE *et al.* point out that although it may seem unusual for a court to require housing that does not necessarily fulfil the standards provided by law, such an approach is “consistent with the concept of progressive realisation. Human rights standards require that resources be utilised equitably to ensure *at least basic shelter for all* as a first step, followed by progressive improvements”.⁷⁸⁷

The Draft Guidelines express a similar attitude in holding that where public resources cannot guarantee high-quality services for all, States Parties should offer a range of services, including low-cost technology options.⁷⁸⁸

In general, the obligations imposed on States Parties to achieve human rights are to *respect, protect, and fulfil*. – The duty to ‘respect’ involves acknowledging that the right to water also is a negative right – a right to freedom, for instance in that governments are urged to refrain from interfering with the use of existing water sources. This includes proportional compensation when interference is inevitable.

‘Protection’ of the enjoyment of the right to water entails both negative and positive rights. There is, for instance, a need to ensure that so-called third parties⁷⁸⁹ do not interfere with, restrict or endanger the individual’s right to water through quality deterioration; imposing social norms on who is allowed to fetch water in a certain well; denying physical passage to a water source; demanding unreasonable remuneration for delivery service, etc. To protect this negative right of every individual, states must take action. Among ways to achieve implementation of the right is the enactment of an effective, up-to date and transparent regulatory system, as related above.

A *demand-side management* approach is often advocated, particularly for urban areas. It starts with the insight that ever-increasing demands (locally as well as globally) simply cannot be met by increasing supplies when resources are scarce both in absolute terms and per capita. In practice, this can mean that measures to improve

⁷⁸⁶ *Government of the Republic of South Africa and others v. Grootboom and others*, 2001 (1) SA 46 (CC), para 52.

⁷⁸⁷ COHRE *et al.*, p. 111.

⁷⁸⁸ UN Sub-Commission on Promotion and Protection of Human Rights 2005, para 6.3.

⁷⁸⁹ Third parties are defined as individuals, groups, corporations and other entities as well as agents, General Comment No. 15., para 23.

water supply and other services must be integrated, coordinated, prioritised and most of all changed at the point of consumption by raising end-use efficiency and reducing waste. This approach is being developed as a matter of economy, technology, behaviour, regulation, organisation, etc., in the provision of water. However, water-saving policies must be implemented without compromising water services, and those currently deprived of water should be given more influence. Instead of a narrow ‘supply-fix’ approach, the demand-side approach has to be responsive to local needs.⁷⁹⁰ *Gordon McGranahan* holds that demand-side measures should be implemented among the poor strata of society in order to improve access to water “even if (and in some cases especially if) this *increases* their consumption” (emphasis added). This would, not least, be beneficial in promoting hygiene and health.⁷⁹¹

The obligation to ‘fulfil’ is more closely related to seeing the right to water as a positive right: measures to assist individuals and communities must be taken, and strategies, policies, plans of action and water programmes need to be decided and implemented.

3.6.2 Private providers and water vendors

Nothing in the Comment or other documents from UN bodies and agencies points to state-governments as the ultimate *provider* of water: access can be realised (also) through third parties. It is common that water utilities are publicly run or at least owned. To an increasing extent, though, private contractors are attending to tasks such as operation and maintenance (O&M), laying new pipes, metering and billing, running laboratories for quality checks, and/or performing other tasks linked to the delivery of water to connected users. In economic terms, this can raise efficiency and profit. It may also be necessary for the public utility to outsource certain functions due to budgetary restrictions placed on them. These restrictions lead to a lack of available investment funds that is often caused by legislation that prohibits the utility to earn surplus funds.⁷⁹²

To be distinguished from the practices described is the fact that, throughout the world, infrastructure in the sense of a water distribution network does not cover even a fraction of all water users. Many have access to water through their own wells, but over one billion non-connected people have to meet their needs through other means – formal and informal – which renders the water unsafe or makes the source an ‘unimproved’ one. Where surface water bodies, wells and street taps are insufficient, the remaining way of accessing water is normally through private vendors. This means paying a monetary sum for the water in a form of simple economic market. This also means that weak purchasing power results in access to too little and/or unsafe drinking water for many millions of people, with ensuing health problems. There is no access to water if it cannot be paid for.

⁷⁹⁰ Cf. Ray & UN-HABITAT, pp. 193, 196f; UN-HABITAT web page ‘Priority needs’.

⁷⁹¹ McGranahan, pp. 1f.

⁷⁹² It is not the intention to discuss privatisation of water services in this study.

A similar situation can arise when the demand from the connected consumers is larger than the supply from the public water utility: supplementary provision of water is often needed. Apart from vendors of water in bulk, bottled mineral water for drinking and sometimes also for cooking purposes is a thriving business.⁷⁹³

Private vendors are, obviously, subject to large differences in terms of price, quality, quantity distributed, reliability of delivery, competition between vendors, etc. Some sellers employ middlemen who transport the water, whereas others work more directly, delivering water to the buyers' homes. Most operate on a small scale and work independently, others sell in bulk, by the tanker. The vendors mostly carry the water in various types of container, or transport it on bicycles or carts (animal-drawn, motorized or hand-pushed), or deliver by truck.⁷⁹⁴ Comparing jurisdictions, there are also differences in how the legislation treats private vending.

The common denominator is that the water being sold comes from underground aquifers. In addition, the sellers are typically men, as it is normally men who own and/or control the land from which the water is pumped.⁷⁹⁵ We will return to the question of (unregulated) groundwater pumping in the following chapter, while the pros and cons of informal suppliers in Bangalore are discussed in Chapter VIII.

3.7 Economic accessibility

3.7.1 Defining the notion

The question of affordability is maybe at the very core of the right to water, but must be seen from several angles. These include the financial and ecological costs of providing the resource, the importance of pricing water as an incentive for users not to waste it, and the /in/ability of the poorest people to pay for it. Plenty has been written on these three major areas over the past few decades, and only the latter will be touched upon in this sub-section.

In the debate on willingness and ability to pay for water services, the human right to water is increasingly discussed in terms of monetary costs, 'full cost recovery', and private water distribution with a more or less pronounced element of profit-making. As the WHO states, "[p]roviding water is never free; the water needs to be collected, stored, treated and distributed".⁷⁹⁶ The General Comment takes a similar, though tacit, point of departure: it sets out that "water should be treated as a social and cultural good, and *not primarily as an economic good*" (emphasis added); 'economic accessibility' thus means that water (and water facilities

⁷⁹³ This business is geared principally towards the top segment of the market; bottled water being generally perceived as the purest form of drinking water and therefore often preferred by consumers who can afford it. However, the Centre for Science and Environment conducted very disheartening tests in this respect in 2002, web page 'Analysis of pesticide residues...'

⁷⁹⁴ Cf. Kjellén & McGranahan, p. 2.

⁷⁹⁵ Cf. B. Agarwal.

⁷⁹⁶ WHO 2005b, p. 1.

and services) must be “affordable to all”.⁷⁹⁷

Without context it is difficult to detect the controversy hidden in these formulations. Since the 1992 Dublin Statement on Water and Sustainable Development⁷⁹⁸ and UNCED’s Agenda 21,⁷⁹⁹ the categorisation of water as an economic *rather than* a social and cultural good has been much criticised, foremost among those working with the South/developing world’s conditions. The Dublin Statement was adopted in 1992 by the International Conference on Water and the Environment, a non-governmental meeting of 500 experts held in advance of the UNCED Earth Summit in Rio de Janeiro. Its four Guiding Principles have had great impact, although not issued by a representative, authoritative decision-maker. Much of their contents were consolidated into Chapter 18 of Agenda 21 during the subsequent Earth Summit. The fourth and often criticised Guiding Principle states that

“[w]ater has an economic value in all its competing uses and *should be recognized as an economic good*. Within this principle, it is vital to recognize first the *basic right* of all human beings to have access to clean water and sanitation *at an affordable price*. Past *failure to recognize the economic value* of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources” (emphasis added).⁸⁰⁰

The involvement of economics in water management includes the claim that ‘water markets’ can provide the means for allocation, distribution, preservation, etc. Conventionally, though, the word ‘market’ assumes the prevalence of a ‘natural price’ as well as the possibility to compare information, an ultimate choice on the buyer’s side, and a laissez-faire policy.⁸⁰¹ Similarly, an (economic) ‘good’ signifies a commodity; an article of commerce.⁸⁰² It is often held that the Dublin Principles reflect neoliberal political and economic agendas rather than universal principles, especially in so far as they advocate a removal of subsidies, commodification of resources, and privatisation.⁸⁰³

The General Comment, nevertheless, also lays down that

“[t]o ensure that water is affordable, States parties must adopt the necessary measures that may include, inter alia: (a) use of a range of appropriate low-cost techniques and technologies; (b) appropriate pricing policies such as *free or low-cost*

⁷⁹⁷ General Comment No. 15, para. 11; 12(c)(ii).

⁷⁹⁸ International Conference on Water and the Environment.

⁷⁹⁹ UNCED stands for the UN Conference on Environment and Development, a.k.a. the Rio Summit, a.k.a. the Earth Summit. In Agenda 21, it is foremost Ch 18 which is of interest here.

⁸⁰⁰ International Conference on Water and the Environment.

⁸⁰¹ Cf. Dellapenna, and Adam Smith’s theories.

⁸⁰² According to microeconomic theories, a ‘public good’ is *non-rival*, meaning that one entity benefiting from it – e.g., consuming it – does not diminish the benefit to another entity. Light, air and defence are examples of public goods that are not reduced in amount due to consumption. Water of potable or like quality is, however, a matter of competition. It cannot therefore be talked of as a public good (but a *common* good).

⁸⁰³ Ferguson & Derman, pp. 4f.

water; and (c) income *supplements*. Any payment for water services has to be based on the principle of equity, ensuring that these services, whether privately or publicly provided, are affordable for all, including socially disadvantaged groups. Equity demands that poorer households should not be disproportionately burdened with water expenses as compared to richer households” (emphasis added).⁸⁰⁴

In other words, the Comment does not hold that water should at all times be free of cost, but it mentions this as a possibility and requires whatever pricing policy is chosen to be appropriate and equitable. The Special Rapporteur said on the issue of affordability that states should ensure appropriate pricing policies, including flexible payment schemes and cross-subsidies to low-income users and poor areas. The subsidies should normally be used for connection to distribution networks, or for construction and maintenance of small-scale water supply facilities.⁸⁰⁵ It seems fair to conclude either that the Special Rapporteur and other UN experts involved decided to dissociate themselves from the fourth Dublin Principle and Agenda 21 in this respect or, alternatively, that the rights-based approach has made a true impact since the beginning of the 1990s. Suffice it to note here that subsidised tariffs or – at the very least – financial support of initial connection costs are indispensable. We will return to this question when looking more closely at the situation in Bangalore.

3.7.2 Are the poor paying more?

It is often contested that ‘the poor are paying more’, as water bought from private providers costs more than that piped to people’s homes. Very few commentators consider this figure on a per-litre basis – an important distinction to make.⁸⁰⁶ Large groups of water users who access water in this manner, i.e. they pay per litre (or rather, per receptacle of approximately 10-15 litres), lack at least two things: storage capacity and purchasing power.⁸⁰⁷ Both these factors lead to the total quantity of water bought and consumed each day being lower than the basic requirements that researchers and policy makers regard as a minimum.

In other words, the very poor segments of society often have only small sums available to pay for their drinking water, and the method of payment is cash-on-delivery as opposed to advance payments. Consumers such as day-wage labourers and other incurrent wage-earners can seldom budget their personal expenditure even in the short run, and can consequently seldom commit to fixed payments (advance or accrued) for water supplied over a period. The WHO has observed that “[m]any people earn money on an irregular basis, which inhibits them from entering into long-term regular financial commitments that might be cheaper in the long run”.⁸⁰⁸ The matter is one of ability to pay, not willingness.

⁸⁰⁴ General Comment No. 15, para 27.

⁸⁰⁵ Sub-Commission for the Promotion and Protection of Human Rights 2005, para 6.1-2.

⁸⁰⁶ Satterthwaite & McGranahan, p. 26, have seen this.

⁸⁰⁷ A third factor can be enough time during daylight to fetch the water; and a fourth the strength to carry it over often large distances – especially when under-nourished children do the fetching.

⁸⁰⁸ WHO 2003, p. 16.

In terms of ‘storage capacity’, slum areas are inherently cramped and with little space per person. Population density is extremely high and a dwelling typically contains a household of more than one family. In Dharavi in Mumbai, India – allegedly Asia’s biggest slum – 12 inhabitants sharing a space of some 8 m² (90 square feet) is nothing uncommon.⁸⁰⁹

The above is further substantiated by the ‘sachet revolution’ that has taken place in India during the past ten years or so. The sachets contain a portion of shampoo, detergent powder, cough syrup and like commodities needed in the modern household, but which millions of households cannot afford to buy ‘in bulk’. The packages have thus been heavily reduced in size by the manufacturers, and usually cost round Rs.1 each. The idea has resulted in a win-win situation for both seller and buyer and follows from the demographic circumstance where most households can only allocate limited monetary resources at any point of time, *and* have limited place to store normal-sized containers.

Access as a function of affordability is mainly addressed through government policies and the public utilities made responsible for providing piped water by offering it at a subsidised cost. The question of water being a human right and therefore to be provided free of cost has been implemented to some degree in one country – South Africa – where a progressive programme has been adopted.

3.7.3 Outlook: free water in South Africa

The state-government of South Africa has, at least on paper, begun to realise fully a human right to water. Apart from statutory law laying down the right as such, there is a policy on the provision of ‘free basic water’, amounting to 25 lpcd or 6 kilolitres monthly per household (of, on average, 8 people). The legal framework on this issue concerns the setting of tariffs for water services, and the relevant provisions will here be illuminated as an example of how a right to water can be codified.

Just as is the case in India, water services is an obligation delegated to local-government level, whereas the management of the country’s water resources as a whole is retained by the national government. The river systems, almost all of which cross political boundaries, are therefore integrated in terms of management.

According to the Constitution of the Republic of South Africa, “[e]veryone has the *right to have access* to... sufficient food and water; and... [t]he *state must take reasonable* legislative and other measures, within its available resources, to achieve the progressive realization of each of these rights” (Sec 27, sub-sec 1(a), 3)(emphasis added).⁸¹⁰ To this is added an objective of local government: “to ensure the provision of *services* in a sustainable manner” (Sec 152)(emphasis added). The Municipal Systems Act contains provisions regulating a tariff policy on the levying of fees for municipal services (Sec 74, 75).⁸¹¹

⁸⁰⁹ Cf. Anonymous 2007r.

⁸¹⁰ Act No. 108 of 1996.

⁸¹¹ Act No. 32 of 2000.

The Water Services Act supplements the constitutional provision on the right to access.⁸¹² The main objects of this Act are to provide for

- “(a) the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being;
- (b) the setting of national standards and norms and standards for tariffs in respect of water services;
- (c) the preparation and adoption of water services development plans by water services authorities” (Sec 2).

The Act defines ‘basic water supply’ as *the prescribed minimum standard* of water supply services necessary for the reliable supply of a sufficient quantity and quality of water to households, including informal households, to support life and personal hygiene. It also lays down that every water-service institution must take reasonable measures to realise these rights; and every water-service authority must, in its water-services development, plan provide for measures to realise these rights.⁸¹³ In addition, a provision in Sec 4 runs:

- “(1) Water services must be provided in terms of conditions set by the water services provider...
- (3) Procedures for the limitation or discontinuation of water services must
 - (a) be fair and equitable; ...
 - (c) not result in a person being denied access to basic water services for *non-payment*, where that person *proves*, to the satisfaction of the relevant water services authority that he or she is *unable to pay for basic services*” (emphasis added).

It was not until 2001 that the right to a certain amount of water was effectively introduced (‘prescribed’), with the Regulations Relating to Compulsory National Standards and Measures to Conserve Water issued by the Department of Water Affairs and Forestry under the Water Services Act.⁸¹⁴ These Regulations provide that the minimum standard for basic water supply services is a minimum quantity of potable water of 25 litres per person per day or 6 kilolitres per household per month, available within 200 metres of a household, and with an effectiveness such that no consumer is without a supply for more than seven full days in any year (Sec 3(b)).

The setting of tariffs is a responsibility of local government, which is to comply with a clear framework of norms:⁸¹⁵ “[t]he Minister may, with the concurrence of the Minister of Finance, from time to time prescribe norms and standards in respect of tariffs for water services”; “No Water Services Institution may use a tariff which is substantially different from any prescribed norms and standards” (Sec 10(1, 4)). In January 2001, the South African Cabinet approved a programme of

⁸¹² Act No. 108 of 1997.

⁸¹³ Water Services Act, Sec 1(iii), 3(2-3)

⁸¹⁴ Regulations Relating to Compulsory National Standards and Measures to Conserve Water (2001).

⁸¹⁵ Department of Water Affairs and Forestry, Republic of South Africa, pp. 7, 9.

implementation of six kilolitres of safe water per household and month for free. This was to be “funded using a combination of the equitable share of revenue of local government and internal cross-subsidies from appropriately structured water tariffs in a manner which best reflects the specific situation in the respective local government area”.⁸¹⁶ Households that use large amounts of water thus subsidise the first six free kilolitres by paying an increasing tariff for every additional block of water used.⁸¹⁷

The programme for free basic municipal services – water for domestic use provided at no charge by local government – is probably one of the most progressive in the world. However, it has regularly been reported how hundreds of thousands of poor households are disconnected from private suppliers’ networks. Some reasons are the lack of infrastructure and of funding from the local governments to the private companies involved, and that “[c]ross-subsidisation has not appeared to be a viable source of funding especially in rural communities where there are not enough high volume water users”.⁸¹⁸ High connection fees and the use of pre-paid meters also seem to make access impossible for the poorest.

The policy promising a basic amount of free water for all is thus not yet implemented in full throughout the country – and it is not legally binding as such. The prohibition against disconnection as laid down in the Water Services Act is also not formulated in such a way as to protect water users, seeing that it puts the onus of proof on the person who cannot pay that he or she is unable to pay.⁸¹⁹ The case of South Africa also shows that a *basic* right to 25 lpcd is generally too little if use in excess of this limit is so costly that users risk disconnection for inability to pay.

3.8 *Summing up*

The discourse on a human right to water has grown louder and received all the more attention since General Comment No. 15 was adopted in 2002. The Comment, an official and authoritative interpretation albeit not legally-binding, is welcomed as a result of the call for recognising water as a human right. Subsequent documents from various UN organs have pointed in different directions in terms of acknowledging access to water as a *right*. Seeing or making water a self-standing right would result in a Special Rapporteur being appointed, with a mandate to press

⁸¹⁶ *Ibid*, speech by Minister *Ronnie Kasrils* at the President’s debate held in Cape Town, February 14, 2001. The speech is the only source found on the decision to introduce free access to 25 lpcd.

⁸¹⁷ Gowling-Gualtieri, p. 8.

⁸¹⁸ *Ibid*.

⁸¹⁹ However, it seems as if a court has decided on the contrary in one case; *Residents of Bon Vista Mansions v. Southern Metropolitan Local Council* [2002] (6) BCLR 625 (W), as referred by Gowling-Gualtieri, pp. 11f. The onus rested on the local authority to show that it had legally valid grounds for disconnecting the water supply and had acted in compliance with the Constitution and the Water Services Act. Disconnection of water supply would constitute a *prima facie* breach of the state’s constitutional duty to respect the right of access to water, and that procedures employed to effect a disconnection have to be fair and equitable.

the issue and its implementation further. This is also what many State Parties are reluctant to.

In terms of the content of a right to water, it is applicable to ‘drinking water’ for *personal and domestic uses*, which includes personal sanitation, washing of clothes, food preparation, personal and household hygiene. The water is to be safe and sufficient and should correspond to quality guidelines of the WHO. The quantity necessary is differently estimated but generally, 20 lpcd is seen as a minimum for basic needs. This amount is, however, equivalent to requirements in the short run or presupposes that users have access to other sources of water for, e.g., sanitation, hygiene and other domestic purposes. The water purchased from private vendors is not regarded as coming from an ‘improved’ source, as there is no regulatory framework to ensure water quality in most countries, and because the price often prohibits this water from being used for hygiene and like uses.

As Langford has observed, the Comment is “neither radical nor conservative but a reasonable interpretation of the Covenant that was grounded in international law and practice”.⁸²⁰ It has demonstrated a practical utility; and recognition of the human right to water has had an effect. Increasing pressure is now being put on the UN system to define the roles and responsibilities of state governments, and on the acknowledgement and implement of a right to water. Numerous guidelines have been issued by expert Rapporteurs and NGOs in order to aid the realisation of access to water. These have functioned to improve the general picture of what is meant and not meant by the human right to water. The documents adopted can provide governments with blueprints and agreed frameworks for determining standards, NGOs with arguments, and individuals with legitimacy and strength to pursue their claims.

4 Concluding remarks

The idea of human rights is essentially about identifying what each human being needs to lead a minimally good life. It has been shown here how this idea is morally based and, in the view of many, has its genesis in the theories of natural law and rights. As such, human rights should exist and apply universally to people in all countries and cultures in their virtue of being human – whether or not these rights are recognized and implemented by the legal system or officials of a country. A ‘new’ human right can also be the result of a deliberate political movement putting the issue on the agenda and pressing for it to become legally valid. By running Nickel’s test we find that ‘water’ is a perfectly justifiable member of the human-rights family. This is not least because it relates to a very special issue of concern, namely a *sine qua non* – without water, there can be no well-being or life, no development or growth.

⁸²⁰ Langford, p. 433.

When *Salman M.A. Salman* and *Siobhán McInerney-Lankford* analyse General Comment No. 15, they argue that the Committee based its recognition of the human right to water on three devices, namely

- *derivation and inference* from the ICESCR – mainly through statutory interpretation of the word ‘including’;
- analysis of water’s *centrality and necessity* to other rights under the ICESCR (i.a., Arts 11 and 12) and other human rights – it is instrumental for survival; and
- pointing to *prior recognition* – the existence of a right to water in various binding Conventions such as the CEDAW, and according to soft law documents including Mar del Plata and previous General Comments.

Salman & McInerney-Lankford summarise that “[t]hrough these three analytical models, the Committee has provided a solid basis for recognizing a human right to water”.⁸²¹ – I subscribe to this multiple approach, and hold that a self-standing right to access safe water must apply to certain rights-holders (foremost, children and rural women) simultaneously as a universal right can be derived from, i.a. ICESCR. The following from the UN High Commissioner is, however, important to stress:

“[T]he debate is still open as to *whether* access to safe drinking water and sanitation is a human right, notably in relation to... whether access to safe drinking water is a right *on its own* or whether obligations in relation to access to safe drinking water and sanitation are *derived from* other human rights, such as the right to life, the right to health, the right to food or the right to an adequate standard of living”.⁸²²

In the High Commissioner’s view, though, “international human rights law entails clear obligations in relation to access to safe drinking water”.⁸²³ Therefore,

“[g]iven the clarity of these obligations, the open debate as to whether the human right to access safe drinking water is a stand-alone right or is derived from other human rights *should not impair the recognition* of access to safe drinking water as a human *right*” (emphasis added).⁸²⁴

It is interesting to note how the rights-talk has become obligations-talk in several of the UN’s recent resolutions and decisions. It may be perceived as a less political way of framing the relation claim (right)–duty. The maxim ‘no right without remedy’ is also not applicable when the terminology is inverted. A duty-bearer is still related to rights-holders, though, for the benefit of their interests. Just as it can be held that a bundle of rights apply, so does a bundle of obligations: to respect, protect and fulfil.

Regardless of how solid and convincing the arguments may be, there is a lack of political will to talk of access to water as regulated in international human rights law. The resistance is prevalent among governments, in various UN organs, etc.

⁸²¹ Salman & McInerney-Lankford, p. 64.

⁸²² UNHCHR 2007b, para 46.

⁸²³ *Ibid*, para 47.

⁸²⁴ *Ibid*, para 49.

There is also what can be termed legal stubbornness: because a right to water is not *expressly* posited in any of the *general* international human-rights instruments of the UN, it is dismissed. The latter group is employing a narrow, black-letter view of how a right is to be articulated to be valid, but of what avail?

A reason at least to the political resistance is presumably the fact that people's rights are intimately linked to the duties and obligations they impose on others, predominantly the state and its finances. There is a moral justification in imposing responsibilities on addressees such as the state, to perform certain functions for the benefit of the community at large as well as for individual well-being.

There is, however, yet another reason for the reluctance of recognising water as a right: the possibility of obligations placed on jurisdiction or even states to share precious drinking water resources. For instance, Canada reportedly blocked the Council from recognising water as a right in its 2008 resolution partly for fear this would have exposed or even forced states to export water to drought-plagued regions – such as some in the U.S.A.

What do we gain by talking of access to water as a (human) right? As a concept, the 'right to water' has a strong symbolic value and appeals to our sense of justice, equity, and reasonability. Practically all human groups share a moral norm like that which Hinduism and Islam stipulate: that water cannot be denied to anyone. The *right* to water is therefore not merely aspirational in the sense of an abstract goal or policy that governments can agree to strive towards achieving: the right stands sufficiently firm but needs to be fulfilled according to what the context requires. To acknowledge this is the first step to realising its content. The actual steps of operationalisation may, however, be taken in a progressive manner with due consideration of the general level of development, including that of whether modern infrastructure exists, and of the availability of water per capita from different sources.

The most common criticism of rights-language is that it is simply rhetorical and loose talk. Although declaring that access to water is a human right does not solve any problems *per se*, a powerful moral claim is at stake. Talk in terms of rights can create awareness among those who do not feel concerned by the vital importance of water to those who lack it in sufficient amounts. Rights-talk can make visible how health, dignity, potential for development, even survival depends on safe access to clean water. Discussing water as a human right necessitates a further specification of why and how we can share this scarce resource in an equitable way, and can motivate people to endorse means of contributing to this end by accepting rationing, increased pricing, mandatory rainwater harvesting, dual water systems, etc.

Assuming that a human right to water exists, the state government's role as provider and ultimately responsible for ensuring the right is fundamental. The mandated, obligated public utilities which function as water suppliers need to operate within plain and unambiguous frames. As we will discuss when exploring the situation in Bangalore, this is often where the state fails and supplementary alternatives and strategies become necessary.

Chapter VI

Water as a Property Right

1 Introduction

In ensuring everyone's right to access, issues of property rights (and obligations) are inevitably involved. The individual right to property is also a fundamental human right, acknowledged in the Universal Declaration and the European Convention on Human Rights as well as in numerous countries' constitutions.⁸²⁵ It is therefore often necessary – but difficult – to strike a balance between the property holders' interests and the access to water from various sources and through various agencies. A prerequisite for sound decisions here is good and up-to-date knowledge of the prevailing law. This sub-section seeks to contribute to such knowledge.

There are etymological links between (the English) terms 'property', 'proper', 'appropriate', and 'propriety', underscoring the assertion of a "value-laden complexity of inter-relating nuances of property talk".⁸²⁶ The conception of property concerns the organisation and 'legitimation' of rights (and obligations),⁸²⁷ and it generally denotes rules and systems that govern access to and control over things and objects. The 'things' (and objects) are such that are regarded as valuable – such as

⁸²⁵ *Cf.* the Universal Declaration of Human Rights, Art 17. As noted above, India does not perceive the right to property as a 'fundamental' one. Nonetheless, Art 300A provides that no person is to be deprived of property unless this is regulated by law – a Parliamentary decision is thus required.

⁸²⁶ Gray & Gray 1998, p. 33.

⁸²⁷ Benda-Beckmann, Benda-Beckmann & Wiber, p. 2; *cf.* Gray & Gray 1998, p. 33.

land, resources and products, some of which are in immaterial form. They form entities to which the right-holder has a title, e.g. ownership, or an interest, e.g., an easement (servitude). Justification of 'property' is often based on its being a natural right, as Locke held.

The discussion of property outside the narrow legal framework generally contains aspects of identity, relationships, ideology, labour, class, wealth and power, as well as the insight that the notion of property mirrors how different cultures view communities and natural resources, including water. Many non-Western legal systems vest property rights in groups rather than in individuals,⁸²⁸ and in men rather than in women;⁸²⁹ at least this has been the case. We live in a time when markets, private property and commoditisation of goods are 'in'.⁸³⁰ The answer to whether property is 'better' in private or common/public hands is a matter of belief-systems, political ideology, culture and values.⁸³¹ It is moreover related to issues of management, conservation, equity and distribution, in the short term and in the long term.

This applies fully in regard to water. Many claims of exclusive ownership clash with regulations intended to preserve water resources for sustainable development. Property regulation is therefore important from several different angles when determining questions of access to water. Property rights (including duties) are of wide relevance both to whether a public body or private vendor arranges the supply, or whether one relies on one's own well or surface-water source. Disagreements about property rights and the use of water are likely to emerge because resource-use matters to people. Such disagreements are particularly serious where the resource is a fundamental need but scarce and competed for.⁸³²

There is no short and general definition of property. Hence many questions arise when we think of property rights in, over, against, etc., water. What kind of 'thing' is water, in the first place, and is it at all capable of ownership or other interests – like other goods? What property rights can be enjoyed? How are water property rights acquired and how far-reaching are they? Do the theories and/or material rules on water property differ depending on the legal system, and how? How are groundwater rights coupled to land, and can they be decoupled? Who can tamper with groundwater yields, and who can prevent others from doing this?⁸³³ And can these rights be transferred as such, i.e. alienated from the rights to the land through (under/over) which it flows? The focus here will be on property rights in ground-

⁸²⁸ This has been described and analysed by numerous writers. Cf. Benda-Beckmann 2001, p. 50; Benda-Beckmann, Benda-Beckmann & Wiber, pp. 2f.; Hann.

⁸²⁹ B. Agarwal.

⁸³⁰ Cf. Benda-Beckmann, Benda-Beckmann & Wiber, pp. 1f.

⁸³¹ *Laura Underkuffler*, p. 16, partly departs from an understanding of property as the system of rules that can govern control of natural resources such as land, trees and water. We recognise this way of reasoning from Hardin's view on the commons.

⁸³² Cf. Waldron 2004.

⁸³³ Cf. the anonymous writer who asked 'Who Owns the Clouds?' in an issue of *Stanford Law Review* in 1948.

water, with an analysis of ownership, easements and other relevant aspects. This focus is warranted partly because the transfer of (ground) water from rural hinterland to city is of ever-increasing significance, and partly because the area is not sufficiently researched.

In the following, a general account of property law will be given, before water can be placed in the scheme. The Indian water property rights regime cannot be understood unless it is set against the historical background: old Roman principles, English law, and the law as applied in parts of the U.S.A. are all of certain importance.

2 Property in the language of law

2.1 *The complexity of the subject*

Contemporary life requires much from the legal system regarding regulation of property – think, for instance, of information on the Internet, and water as a good. Many scholars refer to property as a typical instance of a social and political *institution*, which I deem relevant in the sense that it is a firmly established phenomenon in (Western) society, the practice and control of which has long been regulated in various ways. Simultaneously, ‘property’ is a socially constructed idea, also from the legal perspective. It has meaning only when human relations, or conflicting demands among people, are at stake,⁸³⁴ such as in the competing claims over scarce water resources. Property means ownership and other associated rights, often referred to as a more or less abstract bundle of rights. Simultaneously, the word property can denote that which is owned, i.e., the thing or item which is someone’s property. The vocabulary itself can be an obstacle to making sense of the topic.

The concept of property is thus difficult to grasp and to convey, much due to technicalities developed over centuries. Many aspects of *land law* need to be explained in order to lay a foundation for the understanding of water as property. This is particularly so in relation to groundwater. As we will see, much legislation came at a time when there was neither scientific knowledge to fully understand a resource such as groundwater nor the need to explicate various ‘things’ in legal words. Starting in the thirteenth century and especially during the era of industrialisation, English law needed clearer rules on neighbourhood relationships and human conduct for the use and misuse of water. The courts had to struggle to lay down precedents and came to establish a doctrine which is still of great importance. This has been analysed in detail by *Joshua Getzler*, and we will return to it shortly.

Amongst the many forms of property rights, the law relating to land exhibits special characteristics, and is also a very complex subject for other reasons. One is that traditional – not to say ancient – concepts and principles are still employed, at

⁸³⁴ Underkuffler, p. 12. Gray & Gray 2006, p. 4 point out that property is a network of relationships between individuals in respect of valued resources, cf. Penner 1996, p. 712 – and cf. Hohfeld.

the same time as the requirements of our modern, yet highly unequal, society are rapidly transforming. One result of this is that the nomenclature involved is rather technical – which does not make the law easier to comprehend or convey.

Another reason for the complexity of land law is that while most property law in jurisdictions all around the world can be traced back to the Romans, there are a number of interpretations, instruments and insights that exist only in common-law countries – and several of these bear no resemblance to notions used in civil-law systems. This has resulted in countless mixed legal systems now having some, but not all, ingredients from both common law and civil law, but also their own domestic (legal) innovations. The law of *torts* is the most obvious example of a legal concept that is of major importance in common-law countries, whereas there is no equivalent in civil law.⁸³⁵ Further, English property law divides all that can be subject to property into a number of core categories, which also lack direct comparison in other jurisdictions. *Bernard Rudden* has described how property law is characterised by inconsistencies, irregularities, oddities, long lists of cross-references, and gaps. This is not least evident when the two legal systems are put side-by-side, and when specific codes, acts and bodies of case law are compared. As Rudden remarks, “it is unlikely that we are any wiser than our forebears, for the rules and rituals they devised must have had reason in their day; perhaps it is our unthinking repetition that turns them into riddles”.⁸³⁶

In addition, many philosophical, political and economic considerations have been incorporated over the centuries during which the law has gradually formed. Some are still relevant today, whereas others would be better if reformed. In other words, much theoretical and applied property law would benefit from some unthinking and back-to-basics reasoning to rephrase the question ‘What is ‘property?’’ These problems not only hamper every contemporary writer’s efforts to make the system and the applicable provisions clear and understandable to the reader; they are also essential for the very perception and restructuring of water-as-property.

The scholars interested in property rights in relation to water resources from the purely legal point of view are predominantly American, and their writings relate to the dichotomy between the Eastern and the Western States’ different regimes on water rights.⁸³⁷ They are of some, yet not major interest here. Of importance to the Indian situation is, naturally, English common law with its landmark precedents, though it is not entirely clear what influence these precedents have in India today.

2.2 *Property as a bundle of rights*

The idea of seeing property as a bundle of sticks that can be divided is held to combine Hohfeld’s analysis of rights and the description of the incidents of owner-

⁸³⁵ In common-law jurisdictions, tort refers to a civil wrong recognised by private law as providing a cause of action justiciable in the courts and entitling the injured party to a remedy, usually damages.

⁸³⁶ Rudden, p. 81.

⁸³⁷ I.a., *Joseph Sax; Carol Rose; Eric Freyfogle*.

ship, i.e. the right to possess, the right to use, the right to capital, the liability to execution, the immunity from expropriation, etc.⁸³⁸ For instance, the U.S. Court of Appeals has said that, in civil law, what together constitutes full ownership of property comprises three sub-bundles:

1. *usus* – the right to use or possess, i.e. to hold, occupy and utilise property;
2. *abusus* – the right to abuse, or alienate, i.e., transfer, lease and encumber it; and
3. *fructus* – the right to the fruits, i.e. to receive and enjoy the earnings, profits, rents and revenues produced by or derived from the property.⁸³⁹

The different incidents of property that exist are comparable with a catalogue, or a list, of rights.⁸⁴⁰ The catalogue defines the power which one can have over objects, both as to duration and extent of enjoyment.

Although *J.E. Penner* holds that the picture of property as a bundle can be seen as the dominant paradigm, he also stresses that it is not by any means an explanatory model. Rather, it represents the absence of one, as there is neither a canonical formulation of what the bundle-idea is, nor any clear theory or even a set of propositions in regard to property being a bundle of rights, or a clear methodology developed for dealing with property issues in such a way. Courts decide whether something is property, or can or should be treated as property, but without elaborating on the legal concept other than superficially. By employing the bundle of rights-picture the courts – as well as practising lawyers and academics – avoid facing difficult questions about the nature of property.⁸⁴¹

The rights that come with property are connected, but also correlate, to obligations that fall on others and which (may) inhibit their choices and actions. Penner once more:

“[O]wnership of a car should not be regarded as a legal relation between me and a thing, the car, but as a *series of rights* I hold against all others, each of whom has a *correlative duty not to interfere* with my ownership of the car, by damaging it, or stealing it, and so on” (emphasis added).⁸⁴²

A bundle of rights includes ‘incidents of property’, rights that relate to or depend on a certain property right. The obligations that ownership entails include a duty of care and liability for damage or injury caused to others (and sometimes also injury caused *by* others) and which arise as a consequence of or by means of the property. Again, we can trace the roots to Locke’s idea of natural rights; “no one ought to

⁸³⁸ Penner 1996 with references, pp. 712f.; Underkuffler, p. 12.

⁸³⁹ *Rodrigue v. Rodrigue*, 218 F.3d 432 (5th Cir. 2000).

⁸⁴⁰ Underkuffler notes that this approach raises questions: does the idea of property determine the list of ‘things’ that are property, or is it the list of ‘things’ that *itself* defines what property means? “For instance, do we consider certain rights in things to be transferable because (in common practice) they are property, or do we consider those rights in things to be property, because they are (in common practice) transferable?”, p. 13.

⁸⁴¹ Penner 1996, pp. 714ff.

⁸⁴² *Ibid*, p. 712.

harm another in his life... or possessions".⁸⁴³ Hence property is not only about A's rights, since she or he must also pay due regard to neighbours B, C, and D's rights. In modern welfare societies, limits to everyone's property rights and obligations will therefore be drawn after balancing interests in freedom, security for economic investments, long-term protection of resources, etc., and weaker social groups will need to be duly protected.

2.3 *Property as a natural right*

Property is traditionally explained as a natural right, and as indicated this is often with reference to Locke. When mixing one's labour with what is removed (extracted) from nature, one joins to it something that is one's own, and thereby makes what is removed one's exclusive property. No-one else can have a right to that which is once annexed to the natural resource, "at least where there is enough, and as good, left in common for others".⁸⁴⁴ There has been much debate over the interpretation of Locke's words, with different limits to the creation and holding of property, such as in the so-called sufficiency criterion quoted. Did Locke mean that when there is scarcity and competition, exclusive property rights cannot ensue from labour? And what thing "out of the state that nature has provided, and left it in" can labour convert into private property? Is 'removal' necessary?

Blackstone considered private property as a personal, absolute right to which every man was entitled and which was vested in him by the immutable laws of nature. The paramount natural right of property involved free use and disposal of all a man's acquisitions, without any control or diminution. The principal aim of society and the laws enacted by and for it was to protect every individual's enjoyment of such rights. Human (positive) laws therefore function as exceptions from the principle of absolute property rights; natural liberties have been "given up by individuals", according to Blackstone.⁸⁴⁵

Blackstone's view of legal (positive) rights echoes the Lockean construct of a 'social contract' which exists to protect the ideal of natural rights to life, liberty and property.⁸⁴⁶ Blackstone used a fiction of 'implied consent' to the expropriation of scarce resources: collective action by the state was justified by social purposes. In the discussion of land and water use, consent appears in combination with 'occupation', as a dual theme.⁸⁴⁷ Occupation was considered the natural source of a right-holding title, and thus of ownership. Getzler points out how the occupation argu-

⁸⁴³ "The state of nature has a law of nature to govern it, which obliges every one: and reason, which is that law, teaches all mankind, who will but consult it, that being all equal and independent, *no one ought to harm another* in his life, health, liberty, or possessions", Locke 1689, Ch II, Sec 6
⁸⁴⁴ *Ibid*, Ch 5, Sec 27.

⁸⁴⁵ Bl Comm Vol I, pp. 123f., 144; Getzler, p. 158; cf. Posner 1976, p. 574..

⁸⁴⁶ Positive rights were in Blackstone's vocabulary 'relative' or 'social' rights. Getzler, pp. 158f.

⁸⁴⁷ Bl Comm Book I, Ch 1, pp. 129, 138ff., Book II, Ch 1 p. 2, and Getzler, pp. 158f.

ment also coincides with what Locke wrote: occupancy itself was a method of mixing one's labour into a thing, and thereby appropriating it.⁸⁴⁸

Property law thus has many roots in the theories of natural rights, and the perception of private property in water is very much characterised by this. In the following sub-section, one of the forms of property rights – ownership – is analysed in some detail.

3 Property in the form of ownership

3.1 *Historical background*

3.1.1 Roman principles and common law

The ideas and law of property have developed over a long period and the main historical roots are, with some even older exceptions, traceable back to Roman times.⁸⁴⁹ Doctrines of that time later formed the basis of civil law and the European legal traditions.⁸⁵⁰ Though common law departed from Roman law at an early stage, support can still be sought in the latter where common law is silent and a Roman rule can fit modern circumstances.⁸⁵¹ A more important role for the understanding of property is, however, played by the commentaries and doctrines published by authoritative legal scholars, here foremost Blackstone but also *Edward Coke*, who was Chief Justice of the King's Bench in England at the turn of the seventeenth century and keen to develop common law in England.⁸⁵²

Several types of property rights were recognised by the Romans. The most absolute and full of these was *dominium*, originally meaning absolute ownership of land. The owner hence had complete rights to use and dispose of the land, and/or exclude others from his property at his or her pleasure. *Dominium* comprised both the legal title and the rights to possession and control.⁸⁵³ The doctrine of ownership included certain basic ideas, e.g. that 'original acquisition' of a thing not already owned was a direct source of (creating) ownership.⁸⁵⁴ In civil law, *dominium* later came to be re-defined so as to denote a sum of rights over land, thus both material 'things' and intangible rights and interests.⁸⁵⁵ In common law, the *dominium* defini-

⁸⁴⁸ Bl Comm Book II, Ch. 1 p. 7; Getzler, pp. 161f.; Locke 1689.

⁸⁴⁹ In the academic world, references are still made to the legal writings of authorities such as *Gaius* and *Justinian*, who published in C.E. 130-180 and C.E. 529, respectively.

⁸⁵⁰ Most apparent examples are the French *Code Civil* and the German *Bürgerliches Gesetzbuch*.

⁸⁵¹ Cf. Tindal CJ in *Acton v. Blundell*, p. 353.

⁸⁵² There are naturally a number of relevant scholars, doctrines and jurisprudential theories that cannot be considered here. I have also omitted to describe most of the Anglo-American development and how it influenced common law in England (and, thereby, India).

⁸⁵³ Art 544 of the French Civil Code reflects this approach: "Ownership is the right to enjoy and dispose of things in the most absolute manner, provided they are not used in a way prohibited by statutes or regulations."

⁸⁵⁴ Getzler, p. 51.

⁸⁵⁵ Getzler, p. 74.

tion was also acknowledged,⁸⁵⁶ although this system traditionally shows caution regarding the powers of ownership, ideas of equity, reasonableness and the bundle of rights came to balance the rights that could be enjoyed.

The ownership concept is more or less intimately linked to that of *possession* which, in common law, is a property right as such. Possession involves several conditions that must be fulfilled simultaneously: physical occupation and effective control over a tangible thing – best compared with ‘sitting’ on it – are two. Determinant factors for these conditions are both whether a person is *able to control* access to the thing, and that the possession is of a kind of which the *thing is capable*⁸⁵⁷. However, the possession is legally incomplete without an *intention* to possess the thing, and such an intention often precedes the factual control in time. – It becomes obvious that water is problematic in the sense of possession, as opposed to a piece of land. In its natural, liquid state, water can only partly be seen as a fixed or as a permanent ‘thing’, and the supposed rights-holder may therefore be seen as incapable of controlling it. However, water is material and can without doubt be a good, subject to transactions once captured. As we will see, different law applies to water in a man-made pond or in canals from it, compared to water in a river, or rainwater, or water in aquifers, or water somehow contained in a receptacle or in a well.

An important feature of Anglo-American land law is that land is not said to be individually ‘owned’. This is partly due to the feudal history of the law – the Crown or the state is considered to be the ultimate owner of all soil and holds the land either directly or indirectly.⁸⁵⁸ In the European civil-law tradition, things are either subject to full ownership or a limited property right (*ius in re aliena*) on the one hand, or ‘remaining ownership’ on the other hand.

The practical significance of the difference between (English) common law and civil law is generally not that great today – both are codified to a large extent.

3.1.2 Limitations to property rights

Legal attributes of land ownership include, first and foremost, having a certain portion of the earth’s surface, and, accordingly, the right to use that surface. As a general point of departure, a landowner has far-reaching rights to possess his or her property and to do whatever he/she pleases with it, including using, enjoying, dealing with, disposing of and discarding, destroying, retaining, and even neglecting it. He or she can also decide to alienate the property and separate things attached to

⁸⁵⁶ Getzler, p. 50, writes that the notion of *dominium* “was an abstract model of ownership alien to the feudal land law of England”.

⁸⁵⁷ Cf. Subha Rao, p. 38 with court cases referred to.

⁸⁵⁸ Land is said to be ‘held of the Crown’ in England and Wales. The unit of ownership is thus not the land itself, but the estates and interests that have been artificially created ‘in the land’. A subject, i.e., a physical or legal person, can only own ‘titles’ or ‘interests’ – e.g., an estate in the land or ‘fee simple’ – during a certain period of time. Cf. Megarry, p. 27.

the land, making them into movables (*cf.* below). The owner also has the right to exclude others from interfering and trespassing.

There tend to be two kinds of restriction on one's use of property: those imposed by law in the various interests of society, and those that are encumbrances on the property due to, e.g., a mortgage linked to a loan where the property is a security for the lender. Full ownership may also become restricted due to an agreement or by prescription, where the latter requires that a certain time has lapsed.⁸⁵⁹ In modern legal systems, many aspects of the use of the land have become regulated by the law-maker in order to limit the extent of the entitlements that a property rights-holder can legally claim. It is difficult to imagine what completely 'unlimited' ownership of some thing would mean today.

Legal restrictions and qualifications have developed over time along with increased societal demands for consideration also of the rights of others around the property holder: there is a duty of care to be set against the maxim *sic utere*. With improved knowledge and awareness, natural resources have increasingly become subject to government-imposed rules on use – resulting, e.g., in the requirement in some jurisdictions that a permit is needed even to take out large amounts of timber or water from one's own estate. Doctrines and common law, as modified or supplemented by statute, have contributed to limit the ways in which land ownership, and the attributed rights, were once conceived.

Land ownership as such hence does not include or entail a right to do something that would negatively affect the neighbour's land – even with the best of intentions, and even if the action were perceived as necessary in relation to one's land. Without *consent* from the neighbour, work carried out on one's own land but affecting another's could amount to actionable trespassing, and the neighbour would be entitled to bring a lawsuit for recovery. Conversely, where consent (valid agreement) is deemed to exist, the parties are subject both to rights and to burdening obligations.

3.2 Classification of property

A classical distinction applies between things and items that are corporeal (physical, material, tangible) and what is incorporeal (immaterial, intangible). Different principles and rules apply to these two groups. The former consists of concrete matters that one can sense (typically land – but also air and water – and objects). Incorporeal property consists of rights and other constructs of law that are non-physical (typically an idea, a written text, a computer program). Nonetheless some legal figures and concepts lie on the verge between the two.⁸⁶⁰ The group that we will deal with here consists of things corporeal.

⁸⁵⁹ An important type of prescription is that which results in that an easement right (servitude) comes into existence, more on which below.

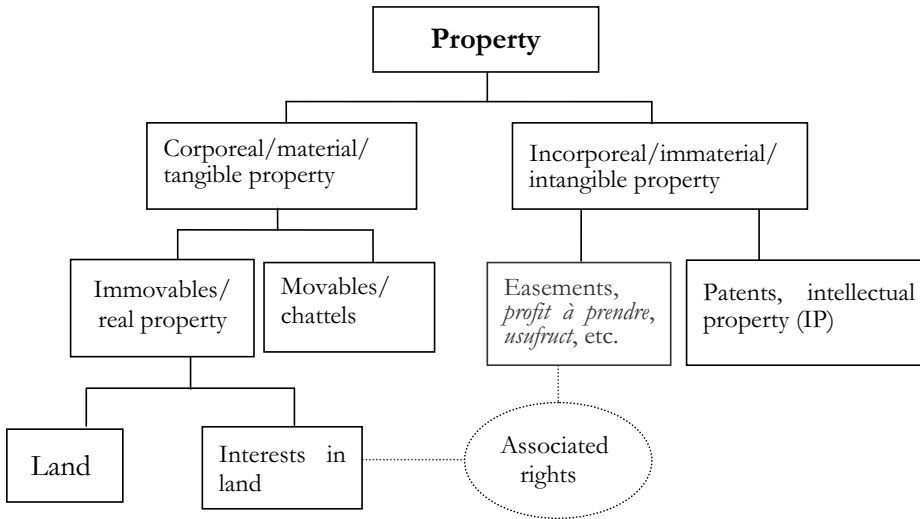
⁸⁶⁰ *Cf.* intangible personal property, which is representative or evidence of value: money, deposits, credits, shares, bonds, notes, other evidence of indebtedness or property interests. These are also

These things are, in turn, divided into two major categories or classes:

1. real property, also called realty, *estate*,⁸⁶¹ or *immovable* property; and
2. (tangible) personal property, also known as personalty, *chattels*, or *movable* property.⁸⁶²

In the Anglo-American common-law systems, the notions ‘real property’ and ‘chattel’ or ‘personal property’ are used. ‘Immovable’ and ‘movable’ are the terms used in Roman and modern civil-law countries, and are preferred in Indian legal language.⁸⁶³ The relationship between property rights can be seen as in *Flow chart 1*:

Flow chart 1. The bundle of property.



Simplified, the first category denotes (a piece of) land and all *interests* in that land. Essentially all other objects are classified as movables. As will be shown in more detail below, the concept of ‘land’ denotes the ground, thus the soil, but it also extends further than to the surface of the earth, i.e., upwards and downwards. The air

referred to as ‘paper assets’. ‘Water rights’ is a concept somewhere in between, in the eyes of some scholars.

⁸⁶¹ The notion ‘estate’ virtually denotes the same as ‘real property’, but the latter is regarded as also including interests which are not physical, such as a right to acquire the property in the future.

⁸⁶² The words are not fully synonymous. Thus in English law with its long feudal history since the time of the Norman Conquest, a *leasehold* right to land is classified as personal property, also called a ‘chattel real’. Within that jurisdiction it would thus be wrong to hold that land equals realty. However, such distinctions will not be made here.

⁸⁶³ I have not researched the reason for this, but it constitutes an oddity considering that it was the English colonisers who introduced the statutory acts on property law to India in the late nineteenth century. Subha Rao, p. 52, writes that English law is ‘paralleled’ in India by immovable/movable.

territory as well as groundwater aquifers are thus – in principle – subject to property rights and -obligations.

The two classes of corporeal property are differently regulated, especially concerning conveyance and other kinds of disposal where the legal (and social) requirements are much higher for immovables than for chattels. The historical reasons for the distinction relate partly to the fact that land, seen as being something fixed and permanent, plays an elemental role for security, stability and development. A contract to transfer immovable property must be in writing, public registration is often needed, etc. On the contrary, no formal transfer or vesting of title is necessary for the conveyance of movable property. Theoretically, the distinction has an effect on how water is treated by law.

Originally, the word ‘real’ related to a thing or object (from Latin *res*), as distinguished from a person, and the distinction between real property and personal property did not depend upon the nature of the property, but rather upon the action by which rights in the property were vindicated. This distinction later evolved into the definition of real property as excluding personal property (which consists of chattels, movable goods). The conceptual difference was between immovable property, which would transfer title along with the land, and movable property, to which a person would retain title.

There are also practical motives behind the higher degree of detailed regulation: most of the time, it can be presumed that someone who has a chattel is its rightful and absolute owner, and thus entitled to pass on a full title to it. The buyer, in turn, takes a relatively small risk believing that person. By comparison, a higher risk is involved in assuming that someone who occupies land is its owner, or can rightfully pass it on. Or in other words; “for a purchaser of land to be content with the word of the vendor and with the appearance of ownership that flows from his possession would be an act of sheer folly”.⁸⁶⁴

Partly, this difference is due to the range of ownership rights and interests that can prevail simultaneously in real property, whereas, at least in common law, there are only two distinct legal rights that can exist at the same time in chattels: possession and ownership.⁸⁶⁵

Legally speaking, the term ‘land’ includes not only the ground and the soil. Although the definition of real property differs substantially between various jurisdictions, land conventionally includes also what is so attached or affixed to the land that it becomes an inseparable part of it. For instance, buildings, trees and other things which are affixed to the land in a permanent and inseparable way are deemed to ‘be’ land.⁸⁶⁶

⁸⁶⁴ Cheshire & Burn, p. 5.

⁸⁶⁵ The unit of ownership is the chattel or other thing itself. Either it is owned/possessed by someone (or by several persons jointly) – or not owned/possessed at all. The latter should apply to most natural water resources.

⁸⁶⁶ A chattel can also become ‘permanently affixed’ to land or to a building, whereafter the object loses its former character of chattel and will be regarded and classified as real property. It will

3.3 *Water as property and property in water*

3.3.1 **A thing not capable of ownership**

The fact that water in its natural liquid state is ‘a moving thing’, means that it is quite impossible to mark a portion of water.⁸⁶⁷ Land is stationary and it is possible to fence it off to signal the proprietor’s legal claims. Physical control over water is hence not practical in the same way as over land and most other material matters. However, the interest one may have in water would mostly be to a certain quantity rather than a particular volume or unit of water, assuming that the quality is the same or equivalent.

Water is constantly in some phase of the hydrological cycle, parts of which occur under the surface of the ground. In the ground, water moves very slowly and it is most of the time ‘invisible’; the water’s existence and movements cannot be seen, only estimated by different scientific methods.

For these and other reasons, water has by tradition not been regulated *as such* within property law. To deal legally with water, it needs to be further subdivided – not only into surface water and groundwater, but to water in natural and artificial streams and tanks, into water in pipes and in wells, into water percolating or flowing. Another distinction needs to be made in relation to rainwater – when is it possessed? – and also between water in aquifers and water otherwise situated sub-soil (for instance, as soil moisture in saturated zones or in pockets of fossil water). Water in a national river is regulated differently than that in a bilateral river. And so on and so forth.⁸⁶⁸ Because water exists in so many phases and forms, it is inherently complex to regulate it.

What might seem like a relative disinterest among lawyers to deal with water property rights can possibly be traced back to a general theory held by the Romans as well as found in common law, that *running water in its natural state* was incapable of ownership. It was a part of the ‘negative community’ of things to which there were natural rights. Hence, such water could be used and enjoyed by all as a usufruct right.⁸⁶⁹ Usufruct or usufructuary, a Latin term, refers to a right to use and enjoy the ‘fruits’ of something not one’s own, thus belonging to another, as long as the property and its substance are not damaged, impaired or altered. Usufruct includes the full right to use the property but not to dispose of or destroy it. For instance, a usu-

henceforth pass with the land at an instance of conveyance. The typical ‘fixtures’ except for buildings are objects that are connected to or incorporation in buildings, like doors and windows. There are certain rights to de-fix, or remove, chattels even after they have become so attached so as to form part of the land. Burn, pp. 151f.; Megarry, pp. 19f.

⁸⁶⁷ By adding a colorant that does not dissolve, one could track water molecules, which can be important when studying pollution issues and the movement of water in aquifers. Likewise, it can be relevant to measure flow in terms of speed, etc.

⁸⁶⁸ Snow and glaciers are left out here, as are clouds which can bring precipitation, and soil moisture (‘green water’). In the kind of water debate that is necessary in our era of climate change, we cannot omit considering such water sources, though.

⁸⁶⁹ The Institutes of Justinian published in C.E. 533-34.

fruct right would be the right to use water from a stream in order to generate electrical power – a right which is distinguishable from a claim of legal *ownership of the water itself*.

The Romans coined the expression *res nullius* for the objects which do not belong to anyone and which, as a main rule, cannot be owned. For instance, fresh air and rain cannot be owned by a private subject and many wild (living) animals and fish are not as such capable of ownership. In addition, exclusive ownership and possessory rights are conventionally not permitted to sea waters (the *high seas*) or *navigable rivers*.⁸⁷⁰ The reasoning behind these restrictions is that ownership would not improve such waters, only raise the costs of use for navigation (which is in itself seen as a universal right).⁸⁷¹ The concept of *res communes* (objects owned jointly by everybody; the commons) made better sense in regard to such waters.⁸⁷² In Islamic law, water is also seen as a communal commodity, a gift of God.⁸⁷³

Partly different perspectives have traditionally applied to water in non-navigable rivers and streams, in artificial canals, in lakes, or ‘captured’ in reservoirs or tanks. Likewise, groundwater is subject to special considerations. To grasp fully the development of property law of water and the Indian regulation later, we should begin with the historical foundation as interpreted by Blackstone. He wrote in general about (private) property, its background and importance for ‘the art of agriculture’, and mentioned also the water in wells, with reference to the Christian Bible:

“[T]he support of these their cattle made the article of water also a very important point. And therefore the book of Genesis... will furnish us with frequent instances of violent contentions concerning wells; the *exclusive* property of which *appears* to have been *established in the first digger or occupant*, even in such places where the ground and herbage remained yet in *common*” (emphasis added).⁸⁷⁴

Here, the principle of ‘first in time, first in right’ applied. This is also known as prior appropriation, a Roman theory. It also seems from this quotation that Blackstone regarded wells – though not necessarily the water in them – as subject to private ownership; *exclusive* property in Blackstone’s terminology.

Clearly, the water in wells was also ‘very important’, but was it ‘capable of ownership’? The answer seems to be both ‘yes’ and ‘no’. A closer study of this part of the text shows that Blackstone explained various natural rights and practices con-

⁸⁷⁰ This is a norm of international customary-law status.

⁸⁷¹ Cf. Getzler, p. 330.

⁸⁷² Roman law provided that “these things are common to mankind: the air, running water, the sea, and consequently the shores of the sea”, Institutes of Justinian, 2.1.1, 529 C.E. Cf. Bouckaert, p. 1; Epstein, various sources referred to by Getzler, pp. 329f. It lies beyond the scope of this study to go deeper into the distinction between the two concepts *res nullius* and *res communes*.

⁸⁷³ FAO 2004, p. 48. A well can be owned, though, and the property extends to an area around the well – *harim* – in which new wells cannot be dug, Burchi 1999, p. 2.

⁸⁷⁴ Bl Comm Book II, Ch 1, p. 5, with reference to Gen 21:30 in which *Abraham* claimed that he was the one to have dug a certain well; it was thus his property.

cerning property, rather than expressing what he thought was the law. Further on in the same introductory text on property he contended that

“after all, there are some few things, which notwithstanding the general introduction and continuance of property, must still unavoidably *remain in common*; being such wherein nothing but an *usufructuary* property is capable of being had; and therefore they still belong to the first occupant, *during the time he holds possession* of them, and no longer. Such (among others) are the elements of light, air, and *water*” (emphasis added).⁸⁷⁵

Thus, a usufruct in water was conceivable, nothing more, and only during the while the water was held in possession. We can interpret this as that water in a well was not capable of ownership. In another of Blackstone’s extensive texts, there is a description of water being “of a vague and fugitive nature”, just as light and air, of which there could also be no ownership. Water could instead be subject to *qualified* ownership, which only lasts so long as the water is in actual use *and* occupation. If it is ‘out of possession’,⁸⁷⁶ it becomes common again, meaning that “every man has an equal right to appropriate [it] to his own use”.⁸⁷⁷ It is clear that Blackstone’s statement is quite in line with the Roman view of *res communes* – and that he thus contributed by adding (fresh) water to the list. Natural law stipulated that water was a resource held in common, and that individuals could at the most have temporary use-rights to it.

3.3.2 Classification of water

What kind of property⁸⁷⁸ is water to be classified as, then? In the early seventeenth century, Coke had pronounced that land in legal significance comprised hidden treasures and many other things for profit, as it had a great extension ‘upwards as well as downwards’. Water was, in his words, ‘a species of land’. Blackstone quoted this and added that it “may seem a kind of solecism; but such is the language of the law”⁸⁷⁹ – land and water could not be separately treated. This was partly because there was no legal *procedure* that would recognise such a claim:

“I cannot bring an action to recover possession of a pool or other piece of water, by the *name of water* only; either by calculating it’s capacity, as, for so many cubical yards; or, by superficial measure, for twenty acres of water; or by general description, as for a pond, a watercourse, or a rivulet: but I must bring my action for the land that lies at the bottom, and *must call it* twenty acres of *land covered with water*... [I]f a body of water runs out of my pond into another man’s, *I have no right* to reclaim it. But the land, which that water covers, is permanent, fixed, and immov-

⁸⁷⁵ Bl Comm Book II, Ch 1, p. 14.

⁸⁷⁶ This could be the result of that someone lets out the property-holder’s water or diverts an ancient watercourse that used to benefit a mill or meadow, Bl Comm Book II, Ch 2, p. 18.

⁸⁷⁷ Bl Comm Book II, Ch 25, p. 395.

⁸⁷⁸ Both Coke and Blackstone were mainly concerned with tenures and estates; with title to land, Getzler, p. 153. Their use of the word ‘property’ is thus not synonymous with today’s conception of the terms as a whole bundle of rights and obligations, but more with *dominium*.

⁸⁷⁹ Co Litt 1 Institution. 4; Bl Comm Book II, Ch 2, p. 18.

able... and therefore in this I may have a certain, substantial property, of which the law will take notice, and not of the other” (footnote omitted, emphasis added).⁸⁸⁰

Blackstone’s point was that legal action to ‘recover possession’ of a certain ‘piece of water’ was impossible as it was not acknowledged in the posited law – water was regarded as part and parcel of land – and because water is not permanent but tends to be migratory and thus not easily possessed. As water was seen only as a subsidiary component of land rights, the question of restitution (restoration to former status or position) could normally not arise.

Against someone’s wrongful taking of land, which is *real* property, the rightful owner or possessor can bring a *real action* to recover it, initiating a proceeding (a lawsuit) in a court established by law. This is to invoke the enforcement or protection of the right, according to the specific judicial process provided for. The historical basis of the distinction between corporeal and incorporeal property is essentially procedural. An unlawful taking of a corporeal thing could be remedied after a *real* action brought before the court by the plaintiff, and the land itself could thereby be recovered. The term ‘real’ property was thus applicable only to things capable of restitution. The same, procedural reason underlies the traditional distinction between ‘real’ and ‘personal’ property (chattel). Against a wrongful taking of personal property, the remedy was thus via a *personal action*. Hereby, the owner could not obtain special restitution but had to be content with compensation or damages, e.g., in monetary terms. Today, a suit for specific recovery of a chattel is often possible, provided that the thing in question can be returned.⁸⁸¹

Blackstone also said that

“water is a *moveable, wandering thing*, and must of necessity continue common by the law of nature; so that I can only have a *temporary*, transient, *usufructuary* property therein” (emphasis added).⁸⁸²

So – what did he mean? That water was part of land, yet movable property? Getzler writes that Blackstone “regarded water as ‘transient’ property; and simultaneously as real property, being part of land”.⁸⁸³ He summarises Blackstone thus: “[w]ater is subject to real rights, but its transient qualities give it some of the character of personal property”, in particular because mere occupation of water was considered to confer a title to it.⁸⁸⁴

Being transient involves an ability to change classification. Water that has been captured and collected converts into being movable property, a chattel, and is thereby conceivable of ownership. When water is possessed so as to be deemed ‘captive’ – be it in a water butt, container, lake, pond, or some other receptacle –

⁸⁸⁰ Bl Comm Book II, Ch 2, p. 18.

⁸⁸¹ On the link between ‘real’ and recovery of the property, cf. Halsbury’s Law of India, para 240.003.

⁸⁸² Bl Comm Book II, Ch 2, p. 18.

⁸⁸³ Getzler, p. 172.

⁸⁸⁴ Getzler, p. 177. The theory of property in land normally requires conveyances in writing.

ownership to it can be claimed.⁸⁸⁵ It is nevertheless unclear when, at what precise point, this transformation happens – after it is drawn or pumped up from its source so as to be visible? After it is poured into a bottle?

With a few exceptions, the question has been dealt with only in early case law and by scholars in the U.S.A., where the question of severance⁸⁸⁶ and water transmitted in pipes and distribution networks has been discussed. From the earliest times, flowing water has been considered unsusceptible to ownership in American law. Because of its fugitive character, it lacked the essential attribute ascribed to exclusive *dominion* over its corpus.⁸⁸⁷ One author wrote in the *Columbia Law Review* that “when quantities are definitely separated from the stream and placed under control in a tank or reservoir, they should become personalty”, i.e. movable property.⁸⁸⁸ It was asserted in another, similar note that “when diverted into an artificial container, and subjected to property classification, water would seem to fall under the head of personalty”.⁸⁸⁹ Reference was here made to Blackstone.

In *Copeland v. the Fairview Land & Water Company* (1913), the U.S. Supreme Court expressed that “[w]ater, in its natural state, is a *part of the land*. Like any other part thereof, it *may become personal* property by being *severed from the realty*, but not until then” (emphasis added).⁸⁹⁰ This view was more in line with the perception of water being part and parcel with land, and once again reiterates Coke and Blackstone’s doctrines. What is interesting, though, is that the Court stresses how water can be severed from the land. In *Southern Pacific Company v. Spring Valley Water Company* (1916), the question whether water in pipes is realty or personalty, i.e., real or personal property, was posed.⁸⁹¹ According to a case note, the Court held that water in pipes is realty.⁸⁹² The author commented that water in natural streams or percolating through the soil is neither real nor personal ‘property’:

“Where, however, such waters have been *confined* (by the exercise of legal rights) in reservoirs or other containers they become the subject matter of ownership. The general rule is that water *thus* reduced to ownership is *personal* property... Under the California decisions, however, water in ponds, reservoirs and pipes – in short, all water *not wholly separated* from the land – is realty” (emphasis added).⁸⁹³

We can safely conclude that if appropriated, collected, rectified or otherwise captured in an artificial receptacle, water becomes movable property, subject to owner-

⁸⁸⁵ Clark; Bouckaert.

⁸⁸⁶ ‘Severance’ is a notion that in property law refers to the act of separating something that is attached to real property from it (typically the cutting and removal of standing timber or crops from the land).

⁸⁸⁷ Anonymous 1913, p. 251. The notion of ‘seisin’, or ‘seizin’, is linked to the traditional understanding of possession and ‘freehold estates’ in common law.

⁸⁸⁸ *Ibid*, p. 252.

⁸⁸⁹ Anonymous 1917, p. 297, with reference to Bl Comm Book II, Ch. 2, p. 18.

⁸⁹⁰ *Copeland v. the Fairview Land & Water Company* 165 Cal. 148.

⁸⁹¹ 159 Pac. 865 (Cal.).

⁸⁹² H.A.J., p. 342.

⁸⁹³ *Ibid*, with references.

ship rights. The question seems harder to determine when the water is, for instance, captured in a reservoir situated within the physical borders of the owner's estate – and I leave that answer open. There is a grey area in between these two instances, which will have to be determined on an *ad hoc* basis.

3.3.3 Riparian rights doctrine

The principle of 'first in time, first in right' or 'prior appropriation', mentioned earlier, is also the foundation of the doctrine of riparian rights, which has its origins in English common law.⁸⁹⁴ Riparian right-holders have a natural right to access flowing water, but this right is not one for the public at large: only those with land adjacent to a natural watercourse are entitled to use its water accordingly. The water is considered *res communes* and is consequently not owned by the riparian right-holder. By tradition, the riparian right cannot be sold or transferred other than with the adjoining land, and water cannot be transferred out of the watershed. Many other restrictions apply to the use of water under the riparian right, the majority of which have been developed through case law. Most importantly, a riparian owner has the right to have the flow of water coming to him reasonably undiminished and unpolluted, and is obliged to show his neighbour downstream the same respect.

3.3.4 Summing up

To sum up, property in terms of *ownership* is closely linked to *possession*, an obviously complicated criterion when it comes to property in water. 'Land' – tangible, immovable property – refers to the ground but it also extends under the surface of the soil. Water in a natural state is classified as immovable, real property; it is part and parcel of the soil not least for procedural reasons. Being a 'moving thing' that is seldom fixed in its natural state in the way that land is: it would be impossible to recover possession of a certain piece of it. 'Water' as such has traditionally not been regulated within property law, but a number of theories and doctrines have developed since Roman times. Running water is seen as incapable of ownership, to be used and enjoyed by all as a usufruct – a *res communes* or common property resource. Rain, the high seas and navigable rivers are seen as *res nullius* – they do not belong to anyone.

Water will become subject to private ownership once it is severed from the land, and duly captured. It ceases to be classified as movable, real property in this moment, but it remains unclear exactly when the transformation takes place.

As a point of departure, landowners have far-reaching rights over their property, save for a duty of care towards neighbours stemming from the maxim *sic utere*. These rights are increasingly circumscribed by the state, enacting regulations and requiring licence applications with the aim of protecting resources and achieving equitable sharing. Full and unlimited, exclusively and private ownership is almost

⁸⁹⁴ Blackstone, *1 Comm Book II*, Ch 26, p. 403, wrote that "[i]f a stream be unoccupied, I may erect a mill thereon, and detain the water; yet not so as to injure my neighbour's prior mill, or his meadow; for he has by the first occupancy acquired a property in the current".

unthinkable in modern jurisdictions. However, the reasoning has been different when it comes to groundwater.

3.4 *Property in groundwater*

3.4.1 *The cuius est maxim*

It is normally not very difficult to determine how land rights extend in space; they apply as far as to the outer boundaries of the estate. Where land registration and other kinds of public record are in place, Cartesian coordinates, physical mapping and Global Positioning System (GPS) technique for land surveying will simplify the establishment of the outer borders. In comparison, a property's vertical boundaries are less clear and much more difficult to determine. If 'land' in the eyes of the law denotes more than the actual surface of the earth, this would mean that a landowner has rights to things in, on, above and under the soil, and if the original point of departure for property was *dominium*, or full ownership, this should mean that everything present or found under the surface of the land also belongs to the landowner, to dispose of according to his or her liking.

An ancient maxim generally referred to as the universal rule is *cuius est solum, eius est usque ad coelum et ad inferos* – 'to whomsoever the soil belongs he also owns it to the sky and down to the depths' (sometimes translated as 'to the centre of the earth').⁸⁹⁵ According to this maxim, no restrictions apply in the vertical direction, and consequently all natural products – above and also underneath the land – would belong in full to the landowner. The landowner could hence prosecute trespass against anyone who violated his or her airspace.

Ownership rights *usque ad coelum* have never been implemented to their full literal meaning. Curtailments have been made in both domestic and international law so that aircraft and satellites are allowed to pass at certain altitudes without this amounting to trespass. The height over land and buildings over which the owner has control is in most legal systems limited to what is 'ordinary and reasonably necessary' for use and enjoyment of the real property.

Ownership rights downwards, *usque ad inferos*, have not been restricted in the same way as the landowner's rights upwards, nor has the impact of the maxim been interpreted with great clarity. Halsbury notes that "[a] conveyance of land prima facie includes *everything directly beneath* the surface of the land" (emphasis added).⁸⁹⁶ Landowners are considered to be entitled to 'reasonable enjoyment' of their property also downwards,⁸⁹⁷ although this right is confined to the space immediately subjacent to the surface of the earth, or that which is situated at a 'reasonable distance' from the surface. Nonetheless, many jurisdictions contain legislation regard-

⁸⁹⁵ Scholars have different opinions as to when this maxim was coined – by the Romans, or in thirteenth-century Bologna. In whichever case, it was pronounced by both Coke and Blackstone. Co Litt p. 4a; Bl Comm, Book II, Ch 2, p. 18. Cf. Gray & Gray 2006, pp. 14f.

⁸⁹⁶ Halsbury's Laws of England, Vol. 39(2), p. 65, footnote 2.

⁸⁹⁷ Cf. Gray & Gray 2006, p. 14.

ing mining activities and treasures found in the ground, explicitly regulating that metals such as gold, minerals such as petroleum, items from prehistoric times, etc., belong to the state and not to the property-rights holder or someone else finding them.

In line with the *cuius est* maxim, ‘stratified ownership’ is possible in English law (and Indian), meaning that land is capable of horizontal division. This is often the case in multi-storey buildings where different persons can have different property in the floors. The rule also makes it feasible to own (and convey) property in trees or growing crops, etc., separate from the ownership of the subjacent soil, as long as the trees or crop has not been severed from the realty.⁸⁹⁸ There are other possibilities, e.g., separation of riparian water rights from the remaining rights in the land, which could be thought of as an application of stratified ownership, and/or severance of an interest in the land from the real property.⁸⁹⁹

Despite how the common law has developed to circumscribe the *cuius est* maxim, its impact is still far-reaching in certain more or less unregulated areas. This leads us back to the question of ownership and other property rights in groundwater. The English courts have laid down a doctrine which is still of fundamental importance when seeking to determine the law where no advice is given in statutory acts today, such as in India.

3.4.2 Groundwater rights in English common law

The *cuius est* maxim applies also to groundwater and was referred to in a number of English common-law cases in the late nineteenth and early twentieth centuries. These cases have in turn influenced the law in legal systems such as those of the U.S.A. and India. The English court decisions were based largely on the limited and now somewhat modified understanding of hydrogeology: the existence and movement of water was seen as scientifically uncertain and unpredictable because it was not visible to the eye. As the water ran in ‘hidden veins’, no-one could know what portion of the groundwater belonged to what piece of land. In addition, groundwater was regarded as an incident to land, just as water in general was seen as part and parcel of land.

In the cases before them the courts considered English as well as Roman doctrines and maxims, such as *sic utere*, and took related English and American precedents into close account. Even so, there was little previous authority for the judges to lean on and as they were clearly facing issues of novelty, they had to invent original doctrines in order to lay down applicable rules. The rapid industrialisation of England resulted in a demand for special rules pertaining to water underground, and decisions also had to function as the outer frames of property rights and conveyances.⁹⁰⁰ In the following, the landmark cases will be presented in some detail.

⁸⁹⁸ Gray & Gray 2006, pp. 16f.; Subha Rao, p. 55.

⁸⁹⁹ Cf. Furth.

⁹⁰⁰ Cf. Getzler, p. 1f, 261ff.

The earliest of the cases is *Acton v. Blundell*, adjudged in 1843 (hereinafter: *Acton*). Initially, it had to be decided whether underground water was to be governed by the same rule as that which applied to and regulated visible and traceable water-courses: was it a natural right? By that time common law had evolved in regard to rivers and flowing streams, which were very important not least for driving mills. The riparian-rights doctrine applied, according to which the use of flowing water was considered a natural right. Though this doctrine was far from finally settled, it constituted a frame of predictability and clarity.⁹⁰¹ Likewise, various Roman-law texts were argued for by counsel. The Court, per *Tindal* CJ, nevertheless decided against making a decision by analogy with the surface water rules. Instead, it was stated that the case in question

“falls within that principle, which gives to the owner of the soil *all* that lies beneath his surface; that the land immediately below *is his property*, whether it is solid rock, or porous ground, or venous earth, or *part soil, part water*... [T]he person who owns the surface may dig therein, and apply *all* that is there found to his own purposes at his free will and pleasure” (emphasis added).⁹⁰²

The word *all* has since been interpreted as establishing a principle of *absolute ownership* of groundwater. However, it is not correct that *Tindal* CJ – or the courts in the later settlements – employed the word ‘ownership’. Neither does *Getzler*, who must be seen as an authority on the matter. We can compare this with how *Blackstone* distinguished between ‘exclusive property’ in the sense of full and private ownership, and ‘qualified property’ – a usufruct lasting during possession – that he thought appropriate for water.

It was laid down in *Acton* that a landowner was entitled to use and enjoy his property in any manner that he chose, and could indiscriminately excavate or withdraw the water situated underground. This absolute, *unlimited* right could be made use of to such a far-reaching extent that

“if, in the exercise of such right, he intercepts or drains off the water collected from underground springs in his neighbour’s well, this inconvenience to his neighbour falls within the description of *damnum absque injuria*, which cannot become the ground of an action”.⁹⁰³

The Court here implemented the insight that aquifers are inter-connected. It also applied another maxim – *damnum absque* (or *sine*) *injuria* – a legal principle which denotes a loss, damage, or harm that is considered to have been caused ‘without injury’. In other words, no *actionable* wrong was done in the name of the law; no remedy is to be found. A loss which is a *damnum absque injuria* exists when a person has in good faith exercised a legitimate right of his/hers, and this happens to result in a loss to another. In such a case there is no legal remedy or compensation to be sought, since *no actionable injury* is considered done. This kind of loss can, for in-

⁹⁰¹ Cf. *Clark*; and *Getzler*’s account for ‘the history of water rights at common law’.

⁹⁰² (1843) 12 M. & W. 324, p. 1235 (Ex. Ch.).

⁹⁰³ *Acton v. Blundell* (Exch. 1843) 12 M. & W. 324; 152 ER 1223.

stance, occur because of natural phenomena such as thunder and lightning. A modern example is losses and damage resulting from market forces that put a seller out of business.

The principle of the landowner's absolute, or unlimited, rights in groundwater was reaffirmed 1859 in *Chasemore v. Richards* (*Chasemore*), where it was also clearly established that the general law – “the principles which regulate the rights of owners of land in respect to water flowing in known and defined channels” – as laid down in previous cases concerning running water in streams

“is inapplicable to the case of subterranean water *not flowing in any definite channel*, nor indeed at all, in the ordinary sense, *but percolating* or oozing through the soil, more or less, according to the quantity of rain that may chance to fall” (emphasis added).⁹⁰⁴

From this and other similar cases the conclusion has since been drawn that water flowing in *known* and *defined* (predictable, if we want) underground streams and channels would fall under the same law as applies to surface water, i.e., the riparian rights doctrine. However, most soil and rock lack such channels. In Sax's words, “[w]ater that actually flows like a surface stream beneath the earth's surface, as in lava tubes or limestone caverns, is *very rare*... *Virtually all* underground water percolates through the ground” (emphasis added).⁹⁰⁵ Thus, the riparian rights doctrine is not applicable to such groundwater. Instead, the property right that a landowner has in groundwater is the *usufructuary* right to *enjoy* it as long as he can find it under his land.

As percolating groundwater is invisible and its movements are unpredictable, no-one can know exactly when it is ‘part and parcel’ of the overlying land and when it is situated within its boundaries or outside. Property in percolating groundwater was not considered conceivable in *Ballard v. Tomlinson*.⁹⁰⁶ In this case, the Court was asked to decide whether the defendant – polluting the plaintiff's well by way of drainage from a WC – had committed an actionable wrong.⁹⁰⁷ In the next important case, *Bradford v. Pickles* of 1895 (*Bradford*), this was nevertheless overruled by the Court stating that

“an adjacent landowner has *no property* in or right to subterranean percolating water *until* it arrives underneath his soil... therefore no property or right of his is injured by the abstraction of the percolating water *before it arrives* under his land” (emphasis added).⁹⁰⁸

⁹⁰⁴ *Chasemore v. Richards* (1859) 7 H.L.C. 349 = 11 E.R. 140, pp. 140, 147.

⁹⁰⁵ Sax 2002, p. 1, with specific reference to California but equally applicable in most parts of the world. However, there are karst aquifers in dissolved limestone in all continents, and an ‘underground lake’ has been discovered in Sudan's Darfur region.

⁹⁰⁶ *Ballard v. Tomlinson* (1882) 29 ChD 115.

⁹⁰⁷ The case is of little precedential value today. However, it was referred to in the case *Indian Council for Enviro-Legal Action v. Union of India* 1996 AIR 1446 = 1996 SCC (3) 212 = JT 1996 (2) 196 = 1996 SCALE (2)44 (the *Bichbri* case).

⁹⁰⁸ *Bradford v. Pickles* [1894] 3 Ch. 53 = (1895) A.C. 587 H.L.

The defendant, Pickles, a landowner, had begun to drain an aquifer located under his land. This aquifer was the source of water supply to the City of Bradford, situated at some distance. The *damnum absque injuria*-maxim was again applied: the city had not suffered an actionable loss and Pickles was within his legal right to do as he pleased with all the water reachable from his land. He was not to blame that the adjacent land was deprived of its groundwater.

Pickles's action to drain off the water was not in good faith; rather, he was accused of wanting to blackmail the City into purchasing his land along with its groundwater resources, at an inflated price. However, the Court decided that the defendant's right to appropriate, drain, or divert percolating groundwater from his own land was unlimited – regardless of whether there was a deliberate intent to diminish the water quantity, with negative consequences for the neighbours. “No use of property, which would be legal if due to a proper motive, can become illegal because it is prompted by a motive which is improper or even malicious”, it was held.⁹⁰⁹

3.4.3 Limits to rights in groundwater

The case of *Bradford* established the controversial common-law principle that it is not unlawful for a property owner to exercise – even ‘abuse’ – his or her property rights maliciously and to the detriment of others, including the public interest. Today, this rule is included in the expression ‘law of the deepest well’, or ‘the largest pump’. The decision in *Bradford* was, nevertheless, at the extreme end of the absolute and unlimited rights in groundwater. For property in general, full and unlimited property rights are unthinkable today, at least in English law: “whether or not we realise it, the ‘property absolutism’ of a bygone era has been largely replaced by a ‘property relativism’ which holds that the estate owner’s ‘bundle of rights’ contains no entitlement ruthlessly to exploit land resources regardless of the communal good”.⁹¹⁰ Major changes have come about under statutory law and many sticks in the bundle of property rights relating to water have been reallocated. The understanding and application of the *usque ad inferos* principle has been limited through several court decisions⁹¹¹ and statutory provisions.⁹¹²

⁹⁰⁹ *Ibid*, p. 598.

⁹¹⁰ Gray & Gray 2006, p. 1342.

⁹¹¹ For instance, *Metropolitan Railway Co v. Fowler* [1892] 1 Q.B. 165; *Grigsby v. Melville* [1974] 1 W.L.R. 83F-G, 85G.

⁹¹² English statutory law now includes the Town and Country Planning Act 1990; the Water Resources Act 1991; the Environment Act 1995, and the Water Act 2003 which are designed to control the use of land and water and secure preservation. The right to abstract water from a well or other water body is circumscribed by the requirement that a licence is obtained first; Water Resources Act Sec. 24(1) and 24(A), as supplemented by the Water Act 2003, Sec. 1(1). As an exception, no licence is required if the water is drawn for the landowner's household, or for agricultural purposes other than spray irrigation, and only in an amount that is ‘reasonable’, Sec. 27(4)(b). Under normal conditions, small abstractions, less than 20 m³ (cum) per 24 hours, are exempted from needing a licence according to the Water Act (Sec 45). This applies equally whether the abstraction is made from inland water sources or ‘underground strata’. From 2012,

As regards modern water law in general, Caponera holds that it purports to limit individual rights in favour of centralised administrative control. The authorities responsible are therefore increasingly legally empowered to exercise control over the quantity and quality of groundwater. State interference has become necessary given the limited knowledge as to the nature and behaviour of groundwater, and the special attention required in its survey, extraction and utilisation. Several legal measures have been devised in various national jurisdictions, including the introduction of strict permit systems and the declaration of special zones for the use of groundwater.⁹¹³ If the state asserts ‘ownership’ over water resources as in relation to private landowners, this is for instance done by laying down that “all of the state waters belong to the public for use by the people for beneficial purposes”,⁹¹⁴ and by reference to the Public Trust doctrine.

Getzler writes that the judgement in *Acton* “rested on a simple absolutist concept of landownership *usque ad coelum et inferos*, a philosophical rather than a historicist approach, calculated to promote an individualistic or libertarian plenitude of power for the land owner”.⁹¹⁵ He further summarises the reasoning behind the decision in *Chasemore* so that “[i]t would curb *exploitation of land* too much if proprietors were required to avoid activities harming natural water flows the extent of which they could not discover. It followed that *no limit* could be placed on the use proprietors could make of indefinite water flows; use of underground waters was therefore to be *unregulated*” (emphasis added).⁹¹⁶ Getzler also shows that in the *English* history of riparian rights, intensive but replenishable users of water for hydro-power (together with other forms of industrialisation) were behind the litigations – whereas in the *American* development, it was generally more common that conflicts arose because water was appropriated for consumptive use.⁹¹⁷ In addition, the importance of doctrine, conceptualism, and the Roman and mediaeval early-modern formulary law must be recognised: “[s]ophisticated extra-legal policy arguments may have exerted some pull, but policy was expressed or filtered through the ancient vocabulary of the law”.⁹¹⁸

In the nineteenth-century court decisions on groundwater in undefined channels, a distinction is consistently made between the right in percolating waters, and the riparian right which is described as a *natural* right. The landowners’ right to appropriate the groundwater percolating under their lands was thus not a rule that was ‘found’ to exist in natural law – it was successively laid out and instituted as

the Environment Agency is empowered to amend or withdraw a permanent licence without compensation, if the licensee is causing serious damage to the environment. *Cf.*, Gray & Gray 1998, p. 19; Gravells, p. 5. Being a member of the EU has

⁹¹³ Caponera, pp. 248f.

⁹¹⁴ *Cf.* Virginia Code § 62.1-44.36; and legislation to implement the Great Lakes Compact in North America.

⁹¹⁵ Getzler, p. 267.

⁹¹⁶ *Ibid.*, 7 H.L.C. pp. 374-9 per Lord Chelmsford; Getzler, p. 308.

⁹¹⁷ Getzler, pp. 328ff, especially pp. 341f., with in-depth analyses of, i.a., *Carol Rose*’s accounts.

⁹¹⁸ Getzler, p. 342.

part of common law. It is a positive right, a doctrine the frames of which were determined by the English courts. Getzler asserts that the reasoning in *Chasemore* was “following the *new natural-right orthodoxy*”: knowledge of the percolating water’s indefinite flows “could not be ‘material in respect of a right which does not grow out of the assent or acquiescence of the landowner... but out of the nature of the thing itself’” (emphasis added).⁹¹⁹ This new right, based on the special characteristics of underground water as well as the scientific ignorance of those days,⁹²⁰ came to exert a major influence on the law of groundwater in the U.S. and in India. Many American courts adopted this doctrine, and called it ‘the English Rule’ – but it was widely discussed and many considered it inappropriate. A brief outlook on the American systems is relevant for discussing the Indian legal situation.

3.4.4 Outlook: the ‘English rule’ in the U.S.A.

English common law on water – both the concept of riparian rights as applying to natural streams, and the rule of percolating groundwater – began to be adopted in the federal U.S.A. during the 1800s. What was termed the English rule on landowners’ unlimited right to percolating groundwater is often referred to as rendering ‘absolute ownership’ (I object to this terminology and interpretation of *Acton*, as indicated above). Soon enough, competition over groundwater made it necessary to modify this doctrine and several other ones were established, but it is still the law in some of the wet States in the east.

However, States especially in the arid western part of the U.S.A. adopted the *reasonable use* doctrine, sometimes called the American rule.⁹²¹ This means that percolating groundwater is considered part and parcel of the land above it, and that landowners can withdraw as much as they wish regardless of the effect on neighbouring land – as long as they make beneficial and reasonable use of the water on the overlying land. When water is in limited supply, withdrawal must be weighted by land area owned. Water must be withdrawn for beneficial use. Surplus groundwater may be appropriated for export to other land. The practical difference between the English rule and the American rule is thus a prohibition of waste.

The California Supreme Court expressly rejected the English rule under which landowners could “inflict whatever damages they wished on other claimants” already in 1903.⁹²² It established instead the doctrine of *correlative* rights. Each overlying landowner was, accordingly, entitled to make reasonable beneficial use of groundwater with a priority equal to all other overlying users. This doctrine has continued to develop in California. If the groundwater supply is inadequate to meet

⁹¹⁹ Getzler, p. 308, referring to *Chasemore v. Richards* 7 H.L.C. p. 375.

⁹²⁰ Cf. that in *Chasemore*, per Lord Cranworth, p. 379, it was added that groundwater percolated by “a process of nature not apparent, and *therefore* such percolating water has not received the protection [of riparian rights]” – the consequence would otherwise be that “every well that ever was sunk would have given rise, or might give rise, to an action” (emphasis added).

⁹²¹ Cf. Kanazawa.

⁹²² *Katz v. Walkinshaw* 141 Cal. 116 (1903).

the needs of all users, each user can be judicially required to proportionally reduce use until the overdraft is ended. The policy significance of correlative rights is that each well owner is treated as having an equal right to groundwater regardless of when first use was initiated.⁹²³

Apart from the English rule, the American rule of reasonable use, and the correlative rule, a fourth doctrine regulates groundwater use in the western U.S.: prior appropriation. Under this, a 'first in time, first in right' rule applies for beneficial, non-wasteful use of groundwater. This is mostly combined with a record and permit procedure system, administered by a State office.⁹²⁴

Mary Brentwood and *Stephen Robar* write that the role of the federal government in groundwater management in the U.S. has been limited, even lacking. This, they emphasise, must be understood when examining groundwater law and policies in the country. However, they add,

“this limitation is not due to any constitutional or legal barriers but rather is self-imposed and due to historical and cultural factors. Such *limitations are not uncommon* in many large (federal) countries including *India*, Pakistan, Brazil, and the People’s Republic of China” (emphasis added).⁹²⁵

Interestingly enough, the authors also point to how the second most important factor in understanding American groundwater management is that the law “has formed in large part in relationship to the form and volume of groundwater found in a particular region and the period in which the region was settled”.⁹²⁶ Many settlers being immigrants from England, it is natural that they brought with them the legal system with which they were familiar. But as the conditions in various parts of the land were experienced, it was noticed that the English rule of property in groundwater was improper and unreasonable where the water resources were scarce and the climate arid. By way of judge-made law, later supplemented or replaced by statutory law, limitations were introduced with the aim of establishing a more equitable system. For instance, the Public Trust doctrine became part of the common law of the United States at the end of the nineteenth century, confirmed, among other things, with the Californian *Mono Lake* case in 1983.⁹²⁷

3.4.5 Summing up

According to the universal maxim *cuius est*, what is found underground belongs to the landowner. From the *Acton*, *Chasemore* and *Bradford* cases a doctrine often referred to as the English rule lays down that all groundwater percolating in an undefined way is the property of the landowner, albeit neither by ownership or natural right but a usufruct right laid down in positive law. Further, a neighbour whose groundwater is intercepted has no actionable cause until the water has arrived un-

⁹²³ Kanazawa, p. 183.

⁹²⁴ Brentwood & Robar, p. 39.

⁹²⁵ *Ibid*, p. 37.

⁹²⁶ *Ibid*.

⁹²⁷ *National Audubon Society v. Superior Court of Alpine County*, 658 P.2d 709 (Cal. 1983).

der his land; any inconvenience or loss due to the interconnectedness of aquifers is considered a *damnum absque injuria* for which no remedy can be sought. As a main rule, neither running surface water nor water percolating in/into underground aquifers may be conveyed separately from the land above.

The English decisions were based partly on the limited understanding of hydrogeology – being invisible, underground water was seen as unpredictable in the language of law – and partly on the demands of rapid industrialisation.

The principle of the deepest well and the largest pump is thus legalised, but it has been interpreted and curbed in many modern legal systems. English and American common law alike have diverged from the doctrine giving landowners unlimited rights in percolating groundwater. It still remains essentially unchanged in many jurisdictions around the world, though.

4 Property in the form of interests: easements

The legal concept of property also includes other forms than ownership. Commonly referred to as ‘interests’, or sometimes as ‘associated rights’, these rights relate to or are over someone else’s immovable property. The most important of these legal instruments is *easements* – or servitudes as they are called in civil-law countries – and the most commonly known easement is ‘right of way’.

The underlying intention of easement rights is to cater for the beneficial and efficient enjoyment of immovable property by legally enabling the possession and exercise of rights to do something in respect to another’s land. The easement interest takes into consideration natural dispensations and physical conditions in the landscape, according to which one piece of land might be more favourably situated than another. When two landed properties relate to each other, their owners are equally related. The landowner who is exercising the easement right is referred to as the *dominant* owner (d). He or she stands in relationship to the neighbour (s) who owns the *servient* land. A characteristic situation is when (d) must pass over the land of (s) in order to reach a road or something else that (d) needs to access. If an easement exists – by prescription or valid agreement – or is established between the two, (d) gets a ‘right of way’ which is accompanied by a burdening liability (an obligation) imposed on the land belonging to (s).

The law of easements originally grew as a necessary crutch to property law in general. The easement is an interest in someone else’s land. It is associated with, and functions to prolong, the ordinary rights of a landowner but is exercised over, or *vis-à-vis* the real property of a neighbour. Without at least a usage right to the land that belongs to (s), (d) would not be able to make full use of his/her land, and it would consequently not render the same value. The right is therefore attached to and runs with the land itself and not with whoever is the proprietor of the land for the time being. The two properties must be adjacent, thus in the immediate vicinity of each other.

The effect of a valid easement can be compared with taking out a stick from the bundle of full ownership rights in the hand of (s). The easement affects the owner-

ship rights to the burdened land so that (s) becomes subject to restraints on use, enjoyment, etc., and (s) can thus not hinder the right of way except by new agreement.

A typical easement, apart from right of way, is when (d) goes to the neighbour's land in order to fetch drinking water from a spring there, or needs to lay down a pipe through that land for the same purpose. These situations are of great practical importance and of interest when discussing access to and supply of water.

5 Concluding remarks

Without doubt, the doctrines of the Romans and Blackstone continue to exert influence over the conception of property rights in general as well as in terms of water, although many modern legal systems will have departed from them to various degrees by way of court decisions and/or statutory law. Compared to minerals, oil and gas, ancient remains, the property rights of which are normally vested in the state through detailed regulations, groundwater tends to be less well controlled.

The rule laid down as regards running water – clearly visible – is that it is a natural right, a gift of nature, and hence belongs to no one. As mentioned, for riparian owners running water is traditionally seen as a natural incident to the right to the land, linked to and by necessity dependent upon the existence of the land right. The control of groundwater according to the English doctrine makes it positively regulated, with legal sources in both Roman law and judge-made law. As such, it is subject to change when the law-maker deems this necessary.

A usufructuary right to enjoy water generally applies. Many jurisdictions still deny the very idea of private ownership of water as such. The element of possession is determinant and, without this criterion being fulfilled, water is *res communes*.⁹²⁸ These are prerequisites that already Blackstone laid down. It can safely be said that water in its natural, running state is not capable of exclusive, absolute or full ownership in any legal system. In so far as groundwater is not expressly regulated, the same applies. It is perceived as *res communes* through tradition, well-established doctrine and/or through the suppression of private ownership rights and the transfer of the resource to the public domain via law.⁹²⁹ There is nothing remarkable in that the 'transient' usufructuary property rights that landowners originally enjoy in many jurisdictions are subject to far-reaching regulations – for the benefit of other landowners and water-using sectors, the general public, future generations, and the ecosystem. The English courts' decisions were reached at the turn of the last century and the reformative steps taken both in England and the U.S.A. to impose limitations in the rights of landowners are natural in the light of improved scientific insights and increased pressure on the water resources. As we will see in Chapter IX and X, similar insights are implemented bit by bit in India.

⁹²⁸ Cf. Clark; Gray & Gray 2006.

⁹²⁹ Cf. Getzler, pp. 66ff, 330; Burn, p. 581; Megarry, p. 418; Caponera, p. 249.

In the literature and general debate, riparian rights, the English rule and other water-related doctrines are also spoken of as *water rights*. In other words: the one who owns land and thereby has usufructuary rights to enjoy water in an adjacent stream or water situated underground has a water right according to this vocabulary. In the following chapter, we will look closer at this notion and how state regulation of such rights in water is discussed.

Chapter VII

Water Rights

1 Introduction

There is no all-embracing definition of the concept ‘water rights’. This is partly a consequence of incomparable terms and systems applying in various jurisdictions. It also relates to the perception that “many treatments of water rights use an *overly narrow, legalistic interpretation* that overemphasizes *statutory rights* laid down in government law books” (emphasis added).⁹³⁰

In this chapter a discourse on informal water rights – existing *de facto* – will be presented and contextualised against lawyers’ interpretation of water rights *de jure*. The informal status of these *de facto* rights, as compared with legally-binding *de jure* rights, is explained in terms of ‘legal pluralism’. The discourse can be construed in comparison with the role of law in society. The objective here is to shed light upon the similarities and differences between the two perspectives, pertinent for a better comprehension of rights to water as a function of law and norms of conduct.

2 Water rights as customs and norms

2.1 *Existence and role of de facto water rights*

Much scholarly work on water management points to the ordering, control, and governance of water resources that take place outside the ambit of law. Formal

⁹³⁰ Meinzen-Dick & Bruns in Bruns & Meinzen-Dick 2000, p. 25.

state law and governmental institutions (authorities, courts, the police) are thus often described as contested and sidestepped by non-state ‘law’ or other kinds of rules; and the need to look at “the many bases for claiming water” is emphasised by many writers.⁹³¹ There is thus a discourse on ‘water rights’, within which such rights are asserted to apply in parallel with or instead of the state regulation of water. This understanding of water rights relates to aspects of land ownership, farmer communities (essentially irrigation practitioners) and general conditions in the local, rural environment. These water rights exist as a result of custom, prescription, negotiation and agreement, social practices and local norms for behaviour.

The discourse on water rights regards statutory, formal legislation on water as an endeavour to rule the resource in a top-down manner, and argues that this is incompatible with practices at village level. It is therefore proposed that *de facto* control over water – by actual users, at local level – is more important to acknowledge than any ‘absolute water rights’ vested in the state, at least from the perspective of water use and its equity effects.⁹³²

This discourse draws on perceptions and practices outside the legal positivist’s definition of the world and is sometimes held to reflect law ‘in action’ as opposed to, but mainly as complementary to, the definition of law ‘in books’. The inability of state governments to enact and enforce effective formal water rights is also often emphasised. Part of the discourse maintains that water rights equal empowerment and equity, and that they “constitute the logic and basic foundations of water management in systems handled by the users themselves”.⁹³³ The dissociation of *de facto* rights from formal rights (permits, licences, concessions, etc.) is in many instances connected to the colonial experience of foreign law imposed on water users by the Europeans.

These informal water rights are held to exist and exert influence whether recognised by the formal system or not, not least by virtue of their function of ‘non-state legal orders’. They are held to be more effectively exercised in water management practice, and “embedded in social, political and economic relationships”.⁹³⁴

A variety of definitions is, however, offered. We will look at two of these here. In the first example of how the notion may be understood, the basis of the rights is a combination of social facts, such as labour:

“In general, local water rights are based on a combination of historical rights, claims emerging from labour (or capital) input in (re)constructing irrigation or drinking water systems, territorial rights or individual rights linked to land ownership. Often, these *complex combinations* do not correspond to what is defined as ‘water rights’ in official legislation” (emphasis added).⁹³⁵

⁹³¹ Meinzen-Dick & Bakker, p. 130.

⁹³² Cf. Maria Saleth 2005, p. 56.

⁹³³ Boelens & Hoogendam, p. VIII.

⁹³⁴ Meinzen-Dick & Pradhan 2002, pp. 16f.; Benda-Beckmann & Benda-Beckmann 2001; Beccar, Boelens & Hoogendam, p. 8.

⁹³⁵ Vos, Boelens & Bustamente, p. 38.

The above indicates that those asserting the existence of water rights can adduce a variety of 'legal sources', and seemingly, more than one basis is sometimes used in 'complex combinations'. Water rights asserted are closely tied to other rights, foremost in land and other property rights.

According to the second, perhaps atypical, conceptualisation, water rights may be defined as

“*authorised* demands to use (part of) a flow of water, including certain privileges, restrictions, obligations and sanctions accompanying this authorisation, among which a key element is the power to take part in collective decision-making about system management and direction’.

The main element of this definition is authorisation; one can talk of ‘rights’ only when water use is *certified by an authority* (individual or collective) with *legitimacy and power of enforcement, and recognised* by users and non-users alike” (emphasis added).⁹³⁶

This way of defining water rights is interesting in that it refers both to ‘legal’ aspects such as certification and authorisation and to legitimacy and recognition. The latter notions tend to be problematic, however, because water rights rarely reflect the needs and values of the entire community. Water rights, the literature suggests, are applicable in the local setting and almost exclusively on behalf of farmers’ irrigation practices. They relate to the man-made channels and sluices that have been built for production of food and fibre, and it is predominantly landowning farmers who are acknowledged as ‘water users’. Although it has been alleged how “irrigation systems *also* provide water for *a range of other* uses, and include more than irrigated farmers as users” (emphasis added),⁹³⁷ the water *rights* of this discourse nonetheless relate to irrigation purposes. This narrow social group provides the context of application and largely explains the interest vested in upholding the ‘rights’ as part of *legal* pluralism.

The above quotations, though complementing each other, also show how differently water rights are understood, much depending on locale and setting, scale, historical background, parties involved and natural conditions. What counts as water rights will also be influenced by gender, ethnicity, caste and class hierarchies, and by the level of education and information accessible.

One relevant question we need to ask relates to where we find these rights applying. The literature suggests that the phenomenon of informal water rights exists primarily in rural areas in countries in the South (developing countries and newly industrialised countries), in locales where traditional practices prevail.⁹³⁸ However, local *de facto* water rights can probably be observed in most societies in parallel with

⁹³⁶ Beccar, Boelens & Hoogendam, p. 3.

⁹³⁷ Meinzen-Dick & Bakker, pp. 1f. The productive uses enumerated are “home gardens, livestock, fishing and aquatic products, and micro-enterprises such as brick-making... domestic uses often thought of as the domain of municipal water systems: drinking, cooking, bathing, washing, and even recreation... [and] environmental uses, including recharging groundwater, flushing contaminants, and supporting wildlife”.

⁹³⁸ Countries on all continents have been investigated: cf. Pradhan *et al.* (eds.); Bruns, Ringler & Meinzen-Dick (eds.). The majority of the research seems to have been focused on the situation in the Andes, though. Cf. Boelens & Hoogendam (eds.); Boelens & Dávila (eds.)

the formal state system of granting water rights. Thus, unauthorised groundwater abstractions, emissions to water bodies, drilling of wells, poaching fish, and so on, are activities which probably exist, are known about and to some extent approved of at the confined community level. The conduct might be perceived as proper and *rightful*, even legitimate, at least in so far as it takes place in or on (what is seen as) one's own property. In other words: there are discrepancies between the conduct stipulated by formal law, and actual conduct.

If we take the second definition quoted above as point of departure, a connected concern is who promulgates and institutes the water rights referred to – who is the rights-maker and is this a body perceived as legitimate? We need to take a step back and consider some of the general difficulties inherent in researching and analysing law, rules and rights, including *de facto* rights. I will argue that the notion of water rights has less to do with *law* than with *norms*, and that the concepts are better not blurred and mixed.

2.2 *Social norms as local law*

Anthropologists have studied the phenomenon of social norms and local rules since *Bronisław Malinowski* pioneered the field by placing himself among the indigenous people of the Trobriand Islands in the early twentieth century. Legal anthropologists and sociologists alike have continued to confront the same basic questions, summarised by *Sally Falk Moore* as follows:

“What were the local rules that made social order possible? Was that to be considered ‘the law’? How does an observer distinguish the rules that are law-like from those that are simply social conventions? Can such a distinction be made? And if the local people do not draw any such line, can the ethnographer do it without distorting the cultural facts?”⁹³⁹

Moore adds that the anthropologists, who were all working in colonial situations, “operated by analogy to the law in the countries from which they had come”, though to varying degrees.⁹⁴⁰ Malinowski “concocted his own working definition of law and the ‘legal forces’”, Moore writes. Though his intention was to “discover and analyse all the rules *conceived and acted upon as binding* obligations, to find out the nature of the binding forces, and to classify the rules according to the manner in which they are *made valid*” (emphasis added),⁹⁴¹ he was forced “to modify the scope of this definition when he examined the encompassing breadth of the idea of ‘cus-

⁹³⁹ Moore, p. 67.

⁹⁴⁰ *Ibid.*

⁹⁴¹ Malinowski, pp. 51ff, quoted in Moore, pp. 68f. It appears that Malinowski must have had the notion of *opinio juris* in mind, *i.e.*, the subjective element of customary international law according to which there is a sense of obligation involved, as he analysed rules ‘conceived and acted upon as binding’.

tom”⁹⁴² ‘Law’ was hereby “distinguished as a sub-category of customary obligations”⁹⁴³.

Malinowski was in decisive conflict with the theories of his time, according to which indigenous societies had no law. The amoeba-like reality of the people under study did not fit neatly into the square box of the template – positive law – but the researcher found a distinct pattern in conduct and feelings of the natives. This was used to define and label the situation as one of both positive law and custom:

“Civil law, the *positive* law governing all phases of tribal life, consists then of a body of binding obligations, *regarded as a right by one party and acknowledged as a duty by the other*, kept in force by a specific mechanism of reciprocity and publicity inherent in the structure of their society” (emphasis added).⁹⁴⁴

Considering the mentioning of rights and duties, Malinowski may have been influenced by his contemporary, Hohfeld. What Hohfeld and others after him described as a relation of claim-rights corresponding to duties, Malinowski however analysed in terms of *reciprocity*. This element of mutual dependency was the specific mechanism by which rights and duties were ‘kept in force’.⁹⁴⁵

The study which Malinowski conducted and the analyses and conclusions he produced were ground-breaking, stressing as they did the functional equivalence to enforcement in ‘primitive’ societies lacking state-backed courts, police, and like authorities. Habits, conventions, traditions, a feeling of respect, and a tendency to do what others did were factors observed by Malinowski as bases for claiming that the ‘law’ was being imposed and enforced on the Trobriand Islands.

It can be asked whether Malinowski’s findings, founded as they were on a ‘coined’ and forced definition, are relevant to making generalised conclusions about the prevalence of non-state *law*. Similarly, is *legal* pluralism a purposeful analytical concept? Why not keep a distinction between law (legal norms, formal rules, rights, etc.) – and social norms? Instead of forcing what Malinowski found into the box named ‘law’, he and scholars after him could easily have applied the rich theories of sociology and norms. For instance, *Émile Durkheim* explained norms as being expectations of how people will behave, which take the form of a rule that is socially rather than formally enforced.⁹⁴⁶ According to Moore, though, Malinowski rejected the connection to Durkheim.⁹⁴⁷

Social norms are cultural rules, guiding or governing all human relations to socially acceptable or appropriate behaviour. The words *norm* and *normal* come from the same linguistic root, and are tantamount to a *standard*. Social norms are found in

⁹⁴² Moore, p. 69.

⁹⁴³ *Ibid.*

⁹⁴⁴ Malinowski, p. 58, quoted in Moore, p. 69.

⁹⁴⁵ The insights into reciprocity laid ground for an important theory in the field of anthropology. Although an interesting analysis could probably be made by comparing this theory with Hohfeld’s correlative thesis, I save this for the future.

⁹⁴⁶ Durkheim, in ‘The Division of Labour in Society’.

⁹⁴⁷ Moore, p. 69.

every society and every group; they can be implicit and exist in the collective mind rather than being written or explicitly pronounced. Characteristic is also that most concerned members of a group – but not necessarily all – must know of, accept, and let their conduct be ruled by it.

The terms ‘local customs’ and ‘traditional practices’ describe similar phenomena as social norms in that they normally are linked to sanctions and the kind of restorative action that is fitting in the surrounding circumstances, rather than to remedies. The sanctions can take the form of social pressure and stigma, making use of kinship ties and even (the threat of) exclusion from various contexts. Economic incentives are of course prevalent, as well as material measures (penalties). Existing religious norms (for instance, *dharmā* and *karmā* in Hindu communities) would also be of relevance. In so far as social norms, local customs and traditional practices reflect cultural values and beliefs held collectively by members of a community, thereby affecting the members’ behaviour, the three terms can (and will) be used interchangeably here.

None of the three terms have legally binding character. Unlike ‘customary law’ (as discussed below), a social norm can have been practised by members of a group for a relatively short time, and can be inconsistent with statutory law. Norms can, all the same, be firmly established as patterns of behaviour. When manifested generally in society, as a belief system or tradition, a norm can be thought of as an ‘institution’.⁹⁴⁸ The more deeply engraved a norm is in people’s minds, and the larger the group of adherents, the more of a binding force.

With different areas of application, a multitude of norms cover and affect various functions of people’s lives in parallel – pluralism thus prevails. There may be overlappings, and thereby internal conflicts, between parallel norms both vertically and horizontally. A hierarchical situation may develop, where one norm takes precedence as the rule.⁹⁴⁹

2.3 Legal pluralism

Since Malinowski’s days many scholars have held that non-Western societies and especially the former colonies have ‘legal’ systems wider in scope than the positive (or natural) law acknowledges. The concepts ‘rights’, ‘law’, ‘morality’ and a number of other /semi-/legal concepts are often filled, supplemented or even replaced with different ones. In Chapter IV, for instance, we saw how Abraham has shown the concept of *dharmā* to be fundamental in Indian environmental jurisprudence. In addition, sources other than those of the sovereign – the formal legislator – are supposedly recognised to a further extent.

Today’s scholars find systems and rights regimes characterised by pluralism most everywhere, not only in developing countries and former colonies. One of-

⁹⁴⁸ Economists and political scientists tend to have other, and different, definitions of the concept ‘institution’.

⁹⁴⁹ Cf. Hydén, p. 113.

ten-cited study is that of *Robert C. Ellickson* on the situation in Shasta County in California, U.S.A. He concluded that neighbours settle disputes among themselves partly because most people find the costs of learning about the law (and how to procedurally ‘use’ and enforce it) to be so high that it is easier to fall back on informal, common-sense norms. Ellickson called this ‘order *without* law’ (emphasis added), and explained that because information is costly, one cannot assume that people will both know and honour the law. If the transaction costs of learning the law are high there is, moreover, little use for governmental re-moulding of the law: actors will ignore it anyway.⁹⁵⁰ Another well-known example is *Boaventura de Sousa Santos*, who found dispute-settling mechanisms and popular justice in operation in slum dwellings in Brazil in the 1970s. He explained the system of rules and practices in terms of the fictitious ‘Pasargada law’, which (he asserted) applied in the *favelas* (slums) in parallel with state law.⁹⁵¹

One thing which the two mentioned studies have in common is that they concentrated on specific locales, geographically limited, just like case studies tend to do. *Sally Merry* coined the expression ‘semi-autonomous field’ to describe pockets within state legal systems.⁹⁵² The problem, in my view, is that such pockets and social fields can be found wherever one looks, *if* one is willing to accept a broad definition of law and rights, and include normative order, social control, unspoken rules and local customs applying in groups, organisations, communities, etc. To *Günther Teubner*, it “proved hopeless to search for a criterion delineating social norms from legal norms”.⁹⁵³ I do not see a difficulty in doing that and agree with Merry, rhetorically asking “Where do we stop speaking of law and find ourselves simply describing social life?”⁹⁵⁴

We can compare this with the critical view of *Brian Z. Tamanaha*, who explains the all-encompassing, pluralistic approach to legal pluralism in terms of the many notions of the concept of law as such.⁹⁵⁵ I regard it as problematic how those fully embracing ‘legal pluralism’ seem eager to explain most normative orders in legal terms. Such an approach, as Tamanaha puts it,

“*generates confusion* by doing violence to common understandings. It also raises the suspicion that, at base, legal pluralism involves an exercise in *theoretical re-labelling*, transforming the commonplace sociological observation that social life is filled with a *pluralism of normative orders* into the supposedly novel observation that it is filled with a pluralism of legal orders” (emphasis added).⁹⁵⁶

There are valid counterarguments to this. Moore has discussed the concept of legal pluralism set against ‘enforceable rules inside and outside the formal law’: formal

⁹⁵⁰ Ellickson.

⁹⁵¹ Sousa Santos.

⁹⁵² Merry 1973.

⁹⁵³ Teubner, p. 13, quoted in Tamanaha, p. 298.

⁹⁵⁴ Merry 1988, p. 870, quoted in Tamanaha, p. 298.

⁹⁵⁵ Cf. Tamanaha, p. 297.

⁹⁵⁶ Tamanaha, p. 298.

law can represent the interests of only one sector of the people. In many settings, the rules made by an authority or a powerful group are imposed on a population which does not necessarily share all of the same objective.⁹⁵⁷ *Marc Galanter* found this to explain much of the Indian situation shortly after Independence, as we will see in Chapter X.

Moore's view is that "rules made by legislatures and enforced by the state are only one piece of the existing system of obligatory norms".⁹⁵⁸ This is mirrored in the perception commonly expressed among many dealing with *de facto* water rights: "state law, religious law, customary law and local norms all have something to say in defining water rights".⁹⁵⁹ Nevertheless, this thinking can only be rightly understood after considering how the terminology today is somewhat 'blurred'. As Moore puts it,

"[w]hen a multiplicity of *enforceable rule systems* operate concurrently this circumstance has been called 'legal pluralism.' An example would be a state which has a secular national legal system to address most legal issues, yet simultaneously, has Islamic law courts to deal with all family law matters. *These days* the same term, 'legal pluralism,' is often used more broadly to describe the multiplicity of *formal and informal* obligatory rules that can co-exist in a variety of social fields. This use of the term emphasizes the multiple *sources of binding rules*" (emphasis added).⁹⁶⁰

So far, this possibly raises more question than it answers. What does 'enforceable' refer to here, and is there a legitimate authority linked to the enforcement?⁹⁶¹ It is also unclear what 'informal obligatory rules' means. Possibly, it is what I prefer to term social norms – such that can be perceived as obligatory and binding in a particular context, group and/or geographical locale, but are socially rather than formally enforced. If this interpretation is correct, it would mean that every society is characterised by *legal pluralism*, because strong social norms exist everywhere. The notion then loses its meaning as an analytical tool.

Further, 'multiple *sources of binding rules*': to my knowledge there is no legal system (including *Sharia*) that does *not* acknowledge a variety of sources as the basis of its law. This can therefore not be decisive for the use of the term legal pluralism.

Moore continues her argument:

"A definitional debate has arisen in connection with the idea of legal pluralism. Some social scientists and lawyers treat *all enforceable* norms as 'law'. Others continue to emphasize the distinction between an *official* legal system with the force of

⁹⁵⁷ Moore, p. 245, with references to what has been observed in former colonial societies.

⁹⁵⁸ *Ibid*, p. 247.

⁹⁵⁹ Meinen-Dick & Bakker, p. 130.

⁹⁶⁰ Moore, p. 247.

⁹⁶¹ Clearly, *Sharia* is the body of Islamic religious law and is hence backed and enforced by an authoritative institution; but strictly seen *sharia* is not a codification of the system of law (neither is the *Qur'an* or the schools of thought followed by *Shia* and *Sunni* Muslims, respectively). Even highly religious states leave room for pluralism, India being one, but it is questionable whether the unifying principle is that of rules being 'enforceable'.

government behind it (laws) and *unofficial* locations of rule making and enforcement ('informal' *but enforceable* rules). Thus legal pluralism is a term which can be analytically blurring" (emphasis added, reference omitted).⁹⁶²

Again, it is unclear what 'enforceable' means. Does it involve the state machinery – the judiciary and executive forces of society? Does enforcement rely on the existence of a legal *system*?

In order not to take this discussion too far, it will suffice with yet a reference to Tamanaha. He illuminates the divide between the two categories of debater, based in turn on their definition of law (from which their definition of legal pluralism stems). These two categories are useful for understanding the existing discrepancies foremost among scholars. Accordingly, law is seen either in terms of *concrete patterns of behaviour within social groups* (Malinowski, Moore) or in terms of *institutionalised norm enforcement* (e.g. *Max Weber* and Hart).⁹⁶³

Roughly, the 'concrete patterns' end of the spectrum can be seen as constituting a blanket attitude, embracing unity in diversity and advocating multiplicity in its broad (postmodern) approach to seeing essentially everything as law. The 'institutionalised norm enforcement' is instead the view of the lawyer, upholding the importance of definitions, exactness, and predictability for the sake of the rule of law in the *Rechtsstaat*. Where most pluralists endorse both views or at least a large part of the spectrum as existing, maybe even necessary, few dogmatic legal positivists would acknowledge informal rules, local practices and social norms as (legal) 'sources of law'.

The function of state law, Tamanaha maintains, is often not to be the major source of social *order*. Instead, we should realise that the bases include culture, customs, habits, reciprocity and language, many of which do not entail the institutionalised enforcement of norms.⁹⁶⁴ Consider how a social norm can be put into effect in the context where it applies by use of sanctions and penalties, for instance by the transgressor being frozen out of essential parts of the community. This sort of enforcement may have a much stronger effect than the formal system of law offers in terms of remedies. As long as this is understood and acknowledged, little seems to be gained by blurring the concepts and calling social norms 'law'.

A local dispute over *de facto* water rights is subject to pertaining social norms and practices – and risks being solved along with traditions and even a 'might makes right' approach.⁹⁶⁵ However, if escalated to state authorities or to the courtroom, the dispute will be measured by standards of formal law because the state system claims exclusive validity and applies a certain procedural frame. Even a judge of the

⁹⁶² Moore, p. 247.

⁹⁶³ Tamanaha, p. 300.

⁹⁶⁴ Tamanaha, p. 301.

⁹⁶⁵ Cf. Max Weber's tripartite classification of authority as stemming from *traditional domination* (patriarchs, patrimonialism, feudalism); *charismatic authority*; and *rational-legal authority*. Tradition and custom legitimises much of the decision-making and ruling in the agrarian society. Weber, Vol. 1, Ch III.

soft, inclusive-positivism school cannot recognise ‘rights’ which are merely *perceived* as *de facto* rights in the local context. As indicated, the term ‘customary practices’ or ‘local customs’ is not to be confused with ‘customary law’ as the latter has a special meaning in jurisprudence. For clarity, we will look at some definitions.

2.4 Customary law

The understanding of positive law starts – as shown in Chapters II and IV – largely with there being applicable sources, one of which is practices accepted *as* law. These in turn include ‘customary law’ (legal customs). By the applicable definition, international customary law is characterised by state practice exercised together with *opinio juris*. A similar definition generally applies also at domestic level. Accordingly, a legal custom must be *established* within a particular community, locality or trade, characterised by its *long usage*, and *obligatory* on those within its scope. A valid custom must furthermore be *certain*, *reasonable*, and *not contrary* to valid statutory law. Peter Ørebech *et al.* write that “[f]or a custom to acquire the status of law it must carry a popular perception of valid *legal* obligation (*opinio necessitatis sive obligationis*). The key to determining whether a custom constitutes customary law is whether the public acts as if the observance of the custom is *legally* obligated” (emphasis added).⁹⁶⁶

In his work on water law, Dante A. Caponera defines customary law as

- i. a set of social rules deriving from a usage of a certain duration;
- ii. the aptitude by those who follow these social rules to consider them as binding.⁹⁶⁷

These definitions evidently resemble the description of social norms – in both cases, the people of the group in which the norm or custom applies *consider themselves bound*. However, the level of certainty in this respect must be higher for a custom to be recognised as legally valid. In other words: there can be no dispute within the group about whether and to what extent the custom is binding. Naturally, a legal custom can furthermore not be applied contrary to other valid, positive law. A situation of pluralism is hence not thinkable as regards the content of the rule.

Another fundamental difference applies between a local custom and a legal custom: the criterion ‘certain duration’ or ‘long usage’. Caponera writes that the duration or persistency is determined by the “*continued repetition* of certain actions or practices by a collective in the conviction that they are legally binding”, adding that

“[t]hese customs and practices must have been observed since *time immemorial* and often are not enshrined in any written text. Even if the latter are not always en-

⁹⁶⁶ Ørebech *et al.* p. 17.

⁹⁶⁷ Caponera, p. 61.

tered in the written legislation, this does not mean they are not known to the beneficiaries” (emphasis added).⁹⁶⁸

Unwritten law is known as *jus non scriptum*, or *lex non scripta*. ‘Time immemorial’ refers to antiquity, time antedating legal records, i.e., no record can be found to prove the existence of this particular custom.⁹⁶⁹ It will ultimately be the role of the court to determine whether a legal custom is in place, meaning that precedents, prior court decisions, play an important role in framing the legal situation. The duration criterion is today often expressed in terms of an *established pattern* of behaviour, something that has ‘always’ been done and which can be *objectively verified* as accepted within a particular social setting.

Contemporary civil law systems have codified most fields in which customary law once existed, by a process of local jurists collecting and writing down the undisputed rights and obligations. In common law and in mixed systems, courts treat legal customs as a source of law.

A distinction should, consequently, be made between customs as referring to local (social) practices, and legally valid customary law. This means that a *de facto* water right can be acknowledged as laying down binding law, but the question will always have to be determined *ad hoc* and with consideration of the legal system and other circumstances.

3 Water rights as agreed-upon contracts

Many ‘water rights’ are issued by, and apply under the auspices of, organisations working with water management in a particular system. The management mostly consists of the O&M of man-made canals and reservoirs (tanks and dams). Disputes are often settled internally. The organisations consist foremost of farmers having a stake in local issues related to irrigation, but other members can be allowed. The inverse is also found: water-rights holders in a village assemble to organise aspects of their water use jointly. The most common sort is probably the Water Users’ Associations (WUAs), formalised principally through the agency of the World Bank since the 1990s.⁹⁷⁰

In comparison with local, informal *de facto* rights, water rights are in this case normally based on an agreement – they arise out of a contract made between the parties concerned, or it can be deduced that an agreement was reached at some point to establish water rights between certain parties. Being an instrument recognised under civil law in most jurisdictions, a contract has legal authority: there are

⁹⁶⁸ *Ibid.*

⁹⁶⁹ In English common law, ‘time immemorial’ has traditionally been defined as a time before legal history and beyond legal memory. In 1276, this time was fixed as September 3, 1189. India follows this date.

⁹⁷⁰ The World Bank reform initiative is part of a programme for a transfer of power to user groups under the name ‘Participatory Irrigation Management’ in developing countries.

remedies attached to it if a dispute is brought to court.⁹⁷¹ A contract is normally seen as binding in so far as something has been agreed upon, because promises are to be kept (the legal maxim *pacta sunt servanda*; pacts must be respected, applies). The agreement as such, and its terms and conditions, can be written and explicit, and/or oral, and even include implicit parts. It includes rights as well as corresponding obligations, but these apply only to the parties to the contract, i.e. those it defines.

Entering into contractual agreements can be seen as a sort of highly functional self-regulation, and this is often so where the water users involved have a long tradition of negotiating the allocation shares. Many water rights are therefore to be viewed as “dynamic, flexible and *subject to frequent negotiations*” (emphasis added).⁹⁷² However, the contract might have been negotiated by a very limited group of water users, making it lack democratic legitimacy and leaving little or no scope for future parties to influence its conditions.

The situation in India for WUAs is somewhat special, as we will see in Chapter X. Next, and last in this chapter, ‘rights’ as an instrument of state regulation of water will be treated.

4 Water rights in law

In common parlance, a water right is an entitlement to *take out* a quantity of water from a water body and to retain the benefits of its *use*. The FAO has made the following definition:

“[W]ater rights... are concerned with the removal (and subsequent use) of water from the natural environment or its use in that environment. In essence a water right is a *legal right*:

- to abstract or divert and use a specified amount of water *from* a natural source;
- to *impound* or *store* a specified quantity of water in a natural source behind a dam or other hydraulic structure;
- or to *use* water in a natural source” (emphasis added).⁹⁷³

A water right can also relate to a man-made water body such as a canal or a tank. The FAO later added that a ‘water right’ might be necessary in order *to*

- “- divert, restrict or alter the flow of water *within* a water course;
- *alter* the bed, banks or characteristics of a water course, including the construction (and use) of structures on its banks and adjacent lands including those related to the use and management of water within that water course;
- extract gravel and other minerals from water courses and the lands adjacent to them;
- use sewage water for irrigation;

⁹⁷¹ However, as pointed out by the FAO 2004, p. 63, canal irrigation contracts do not confer particularly secure rights.

⁹⁷² Meinzen-Dick & Pradhan 2002, pp. 16f.

⁹⁷³ FAO 2004, pp. 13ff. Cf. FAO 2006 pp. 4f.; C. Singh 1991, p. 20.

- undertake fishing and aquaculture activities;
- for navigation; and/or
- *discharge* wastes or pollutants *to* water courses” (emphasis added).⁹⁷⁴

In addition, a water right may be needed to conduct activities through which the groundwater table is altered (pumping as well as artificial replenishment such as large-scale rainwater harvesting), to drain or dredge areas, for diverse activities affecting wetlands and other protected water bodies, various kinds of treatment of raw water (including desalination plants), for production of hydropower, to use water for heating and cooling, etc.

A right is sometimes granted only after an Environmental Impact Assessment has been carried out or some other stipulated procedure has shown the potentially harmful effects of the activity, and how these are to be prevented and mitigated. The permit normally also sets the frames to the activity in terms of, e.g., maximum quantity to be abstracted or stored, minimum flow to be allowed, emission limit values and standards, monitoring and assessments.

Tracing water rights as an instrument we see how it has played an important role in the economic development of many societies, but also for reasons of general predictability, efficiency, equity – and, increasingly, ecological motives. Getzler’s words summarise the historical background in English common law:

“Water resources were central to England’s precocious economic development in the thirteenth and sixteenth centuries, and then again in the industrial, transport, and urban revolutions of the late eighteenth and early nineteenth centuries. Each of these periods saw much legal conflict over water rights, typically between domestic, agricultural, and manufacturing interests competing for access to flowing water. From 1750 the common-law *courts developed* a large but unstable *body of legal doctrine*, specifying strong property rights in flowing water attached to riparian possession, and also limited rights to surface and underground waters. The new water doctrines were built from Roman law and Roman-derived civil-law concepts” (emphasis added).⁹⁷⁵

The competing sectors Getzler points to are essentially the same today: domestic, agriculture and manufacturing. Interests in the latter have been more strictly regulated to benefit the needs of farmers and households. To maintain riparian rights in flowing waters, theories of natural rights were influential but as flowing waters are no longer of same great importance in England, statutory law has superseded much of the previous rights regime. As noted above, landowners’ use-rights in groundwater, with historical roots in Roman law, have been upheld but also circumscribed by enactment of positive law. Partly different values and insights determine our priorities today – Justice Katju would refer to the development as due to scientific, dynamic positivism.

Regulation is an important tool for managing water as part of a larger whole, a component of the natural environment that must be dealt with in an integrated and

⁹⁷⁴ FAO 2006, p. 5.

⁹⁷⁵ Getzler, p. 1.

holistic manner. It is therefore often made mandatory for users to apply for a water 'right', one which may be *granted* by the appropriate authority. Typically the right, when approved, comes in the form of a licence or permit, and sometimes in combination with specific conditions as to, for instance, the duration of the right and the precautions to be shown to neighbours. Law and legal regulations are key instruments in the efforts to improve the environment, to conserve our natural resources as well as to develop them in a sustainable way, to achieve coordination of long-term objectives, to handle disputes, etc.⁹⁷⁶ Law also plays a fundamental role in the management of our water resources, a fact stressed in many international declarations. The Mar del Plata Action Plan of 1977 was the first, immensely insightful at a time when water law was only in its infancy even in the most progressive national legal systems. The Plan sets out that

“legislation should define the rules of public ownership of water projects, as well as the rights, obligations, and responsibilities, and should emphasize the role of public bodies at the proper administrative level in controlling both the quantity and quality of water. It should also spell out, either in the primary or subordinate legislation, administrative procedures necessary for the coordinated, equitable, and efficient control and administration of all aspects of water resources and land use problems, as well as the conflicts that may arise from them”.⁹⁷⁷

A legal framework is needed as the backbone of legitimacy for the state to regulate, allocate and control 'its' water resources,⁹⁷⁸ and for the water administration to deal with human activities adequately and effectively.⁹⁷⁹

The formal granting of water rights forms an essential part of the state's general law-making and governance powers. We can compare this with *Jean-Jacques Rousseau's* idea of a 'social contract' established by agreement between the people (citizens) and the state (government), the former thereby giving up some of their natural rights to maintain order. Rousseau held that “[w]hat man loses by the social contract is his natural liberty and the *absolute right* to anything that tempts him and that he *can take*; what he gains by the social contract is civil liberty and the *legal right* of property in what he possesses” (emphasis added).⁹⁸⁰

The controlling and co-ordinating role so vested in the state becomes particularly important against the backdrop of increased competition over scarce freshwater. There is no overall consensus about the state's authoritative role in issuing water rights, but *David Getches* holds in a general account that “[a]lthough water laws differ widely, notions of substantial public rights in the resource is a major theme

⁹⁷⁶ It has been indicated above that law is but one of several fundamental instruments. Supplementary means of reaching, for instance, the objectives of a statute are often enumerated in it – economic incentives and informative measures are the most common.

⁹⁷⁷ Mar del Plata Action Report, p. 33, fourth recommendation, as summarised in Salman & Bradlow, p. 4.

⁹⁷⁸ Salman & Bradlow, p. 1.

⁹⁷⁹ Caponera, p. 2.

⁹⁸⁰ Rousseau, p. 196. Mahatma Gandhi quoted from Rousseau's version of the social contract on several occasions.

across allocation regimes and through history”.⁹⁸¹ Examples show that modern legal systems tend to approve water rights for consumptive use, livestock, irrigation, domestic, and industrial purposes. It is also common to find that water abstracted for household uses is exempted from licence requirements. Some legal systems also exempt other classes of water usage, foremost agricultural activities, up to certain specified volumes daily. However, a problem with such rights and exemptions is that they may not provide much in terms of security for those who rely on them.⁹⁸²

Water rights and water law in the sense relevant to this study pertain mainly to the national level and the domestic law. Regulation of water resources is then foremost associated with use of inland water⁹⁸³ as being a solvent, a medium of transport and a habitat for aquatic life, for electrical power production, recreation, as a fundamental resource for food production, for hygiene and other domestic needs, and for drinking and food preparation. For economic and social reasons, protection is offered for the withdrawal (abstraction, extraction, appropriation) of water from aquifers, streams, lakes and other water bodies, for diversion of the flow of watercourses, and from emissions and discharges into them. Protection is now also increasingly given for the ecosystem services that water in the natural landscape gives, for instance in wetlands. Many jurisdictions have or have had separate agrarian legislation that is mainly concentrated on land use, but which bears also on water resources, and the same applies to planning measures in relation to housing and other issues of building and spatial development. The issues of water access in terms of public supply and provision are usually also covered separately, as matters of health protection and (local) planning law. Integration of all these aspects is being realised, a little at a time, much depending on how mature the legal system is and how far systemic thinking has come among decision-makers and legislators.

Substantial differences as well as similarities and universal values can be detected when comparing domestic water-rights regimes – but variations in the duration, security, flexibility, divisibility and transferability of a water right have also been observed within jurisdictions.⁹⁸⁴ Differences between the definitions depend largely on the legal system at work and on whether abundance or scarcity is the normal condition. The prevalent ways of using water bodies play a role, and so surface water is usually regulated differently than groundwater. It has been held that the main defining difference is “the degree of certainty of the benefits attached to water rights” or, in other words, “the duration of the right and the predictability of the volume of water received (to most right holders)”.⁹⁸⁵

The FAO explains how ‘legal water rights’ (just as rights in land),

⁹⁸¹ Getches, p. 2.

⁹⁸² FAO 2004, p. 19.

⁹⁸³ Many nations with shorelines include their parts of the sea in the regulation of emissions, etc.

⁹⁸⁴ Productivity Commission, p. xiv.

⁹⁸⁵ *Ibid*, p. xx.

“are capable of being asserted *against the state and third parties* in a court of law. In the case of a dispute, a right holder can legitimately expect a valid right to be *upheld* by a court and as necessary enforced through the machinery and *coercive power of the state*. Loss of, or damage to, a land right or a water right is *prima facie* subject to the payment of compensation and the right to such compensation is *enforceable* in the courts” (emphasis added).⁹⁸⁶

We see here how the FAO recalls remedies being linked to rights, and to the authority – and obligations – vested in the state to ensure rights. This marks a fundamental difference between legal water rights and social norms, unless the latter are acknowledged in court. This also calls to mind the rule of law in the sense of a *Rechtsstaat*: the power of the state to take various actions against its citizens is limited in order to prevent arbitrary exercise of authority, and citizens have access to courts should the state exceed the powers vested in it. The fact that the state’s authority can be trapped in a slow bureaucratic and maybe also corrupt body is, on the other hand, a clear and realistic disadvantage. A local norm, enforced by the social pressure of expectations in the community, and various other sanctions, can be more directly and rapidly implemented. Preferably, the intention behind the law is well enough communicated and accepted and correlates with the norms in society.

5 Concluding remarks

In the previous chapters we looked into the right to water as a human right, and the right to water as property. These two dimensions represent demands and competition between different sectors of water users. In many parts of the world there are more *water rights* and entitlements than water: allowed pumping of groundwater exceeds the natural recharging of aquifers, extractions from rivers leave no sustainable base flow in the water system, and so on.

When a water resource is fully allocated or even ‘over-allocated’,⁹⁸⁷ needs for reforms and reallocations must be addressed. A part of the solution lies in improved planning for sharing the water available for sustainable consumption. Curbing of granted water rights is another, and formalisation of ‘customary’ rights may be yet one more. Information, awareness-raising, economic incentives, zoning and bans are different instruments to be combined in the efforts to preserve over-allocated water resources. When measures are taken to curb existing water rights, these must be well communicated and the level of participation offered to affected users must be high. Despite such efforts, though, perceptions on the water rights introduced may be varying and clashing.

The understanding of our water resources has been subject to change over the centuries as a result of more and assembled scientific knowledge, with progressive

⁹⁸⁶ FAO 2004, p. 7.

⁹⁸⁷ An aquifer, catchment area or river basin becomes ‘over-allocated’ as a result of more entitlements having been issued in a system than can be sustained. ‘Over-use’ occurs where more water is allocated to irrigators or other users within a given period than can be sustained.

regulations and increasing juridification⁹⁸⁸ as a consequence. One remarkable and imperative development is that in many systems today, rights granted are limited to ‘reasonable use’, seen as a share of the total amount of water available, rather than a specific volume at a specific time. Correlative liability in respect of other right-holders is also emphasised increasingly. A highly related problem is that due to climate-induced changes, the year-to-year and spatial variability in precipitation may become greater, and consequently the unpredictability of stream flow (and many other conditions) might increase. Very few legal systems have begun to adapt their water-rights regulations accordingly.

These are insights gained during the past few decades. Sharing and (re-) allocation of scarce water resources need to be understood from the various perspectives and belief systems of those concerned, as well as the limitations imposed by the legal system. The concept of ‘water rights’ is highly relevant to achieving this understanding.

The concept can, however, refer to both legal and non-legal ‘rights’. Whereas the definition in the former case follows a legalistic, positivistic, sometimes even black-letter path, the latter offers a wider perception of what ‘rights’ and ‘law’ entails. From Malinowski’s efforts to capture the essence of law in a local society, via current struggles to retain the (definition of) *de facto* rights over water resources, to modern legislators’ attempts at regulating their use and abuse, we have met certain difficulties to grasp in a consistent manner this notion.

Further, perceptions on rights and obligations may diverge between ‘users’ in a particular local system, and between them and those outside it. Not everyone with basic water needs is necessarily acknowledged as a ‘user’ within the system, though; the discourse on *de facto* water rights predominantly refers to irrigating farmers and mostly to landowning such. When Water Users’ Associations are discussed, drinking water aspects and other household needs are not always taken into account or are at least not treated in great detail in the discourse.⁹⁸⁹ A ‘user’ tends to mean someone who has a stake in the O&M of water reservoirs, canals, sluices, etc.; thus in allocation of surface water for food production. Much of this perspective relates to traditional and gendered division of chores and tasks in local communities, but power inequalities may also be present in the way that landless labourers are seen as not having a stake or a right in the water resources. ‘Water rights’ are not equitable or sustainable *per se*.

Much discourse on *de facto* water rights characterises them as existing, state law notwithstanding. These right-holders may rely on customary and religious norms, agreements and contracts, decisions made by village elders, etc., apart from – or

⁹⁸⁸ ‘Juridification’ here means expansion and proliferation of the field being regulated by positive law. An increasingly comprehensive body of regulations can be built up both by the legislator and by the courts. The term is used, i.a. by Jürgen Habermas, pp. 256ff. (*Verrechtlichung*). The opposite is *deregulation*.

On the other hand, there are several specific studies into the conditions of female farmers in the literature on local water rights.

even instead of – statutory law. From the literature the rights seem to prevail mainly in societies where traditional, local rule is still in existence, or has been re-introduced by way of reformed control (‘turn over’) of water for irrigation.

The discourse on *de facto* water rights seems to be referring only to rural environments. Social norms, local rights and obligations in for example vegetable farming in peri-urban areas – including the *desakota* as McGee called them – are likely to be found in relation to water use also in these. This is possibly an under-researched field.

In addition, many parts of the world witness that rural, but most of all peri-urban, areas are increasingly used as locations for wells. Pumping of groundwater is important for the supply of drinking water to an ever-growing number of people living in the city, where water is not readily available. Simultaneously, though, this practice has detrimental effects on water tables and competes with food production. Insights on local perceptions and social norms are gradually gained on problems such as accelerating social distortion between farmers who have water to sell and others who have to buy it,⁹⁹⁰ and on processes such as how negotiation and multi-stakeholder dialogue can be improved,⁹⁹¹ but more research is needed on the subject.

We can assume that for today’s researchers in legal anthropology, some points of departure and methods resemble what Malinowski experienced. Presumptions and preconceived notions affect how local rules are approached, described, analysed and talked about. Most of the time the researcher looking at the situation under study comes from outside and re-constructs it, employing ready definitions as well as making his or her own in order to construe how ‘the locals’ govern their world, how they share and conserve their resources, and make order in general. And she or he probably struggles to relate this to the better-known legal traditions, be they European or something else, even when no comparative study is the end goal.

In other words, the task of understanding and making sense of law in foreign systems is difficult. It appears uncertain how much conceptual progress can be made through the concept of ‘legal pluralism’, due to the very concept of law being such a major challenge to grasp. Most legal systems are nowadays mixed and subject to pluralism because several layers of law apply simultaneously: international declarations and regional agreements of the UN, the WTO, the NAFTA, the EU, and so on. The postmodern and globalised era demands that we acknowledge broad and varied perceptions of law, but a trivialisation of the concept of *legal* pluralism will not improve our understanding of law and order.

The issue of access to water can be benefitted from taking social norms, *de facto* rights, local rules and customary practices into account, but the approach should preferably employ a terminology that keeps the distinction between the notions. There are reasons to make a difference between formal law and rules made within

⁹⁹⁰ Ruet, Gambiez & Lacour, p. 119.

⁹⁹¹ Janakarajan *et al.* Cf. Butterworth & Warner.

the state's realm, on the one hand, and social norms etc., on the other. I argue so to uphold the rule of law, the system of *trias politica* and idea of there being a universal human right to water. It would also seem as if prioritisations made at a higher level – through decisions possibly informed by a systemic perspective and by influences from other jurisdictions – are more likely to be enforced by the executive if binding and communicated as such. The alternative involves to downplay the role of law, Hohfeld's theory of rights being correlative to duties, and Blackstone's maxim that for every right there is a remedy.

On the other hand, social norms exist in every society and in regard to most things and human relations, and formal law is more likely followed when it is in line with local norms and existing senses of what is 'right' and who have claims and duties, respectively.

The non-legal understanding of 'water rights' undoubtedly relates to titles, demands, control, strategies, and processes of access and allocation. These rights are parts of locally contextualised systems of *practices*, even if they would not hold in court. However, without conducting in-depth field studies, it is very difficult to determine the existence and extent of a particular 'right' or social norm. What is practised in one village or within one community may not be coherently adhered to in another. The possibilities to generalise about specific rights and norms are therefore limited.

Part 3

In Part 1 of this study, Bangalore's water-related conditions were presented. This last Part is again devoted to an analysis of the situation in India and Bangalore. It is set against the theoretical aspects of Part 2, where rights in relation to water were analysed as forming three dimensions of the issue. The division is, of course, made for reasons of clarity but also to stress that law treats these rights, and thereby water, differently. In the following, the division will essentially be kept until the final chapter where the three dimensions are connected. Each of the three following chapters closes with a conclusion.

In Chapter VIII we investigate whether and how the dimension of a human right to water is interpreted by the Indian judiciary, legislature and policy-makers. The extent to which the right is also implemented depends greatly on the role and jurisdiction of the city's Water Board. A closer look at the Board's functions is therefore offered in the light of Bangalore's recent expansion. It will be shown how a legal reform is necessary to ensure poor people's access to at least a daily basic amount of drinking water.

Next, Indian property-rights law is investigated in Chapter IX, where the role of English common law in present-day regulation of water will be shown. The focus lies on rights in groundwater, and some erroneous interpretations of the law will here be refuted. In Chapter X we look at how water rights matter differently to different sectors of users: water for irrigation comes under state regulation in large parts of India, but has a fundamentally different legal – and social – basis than water for drinking. This emerges from the dispute over the River Kaveri, contended even though expert committee, tribunal and courts have dealt at length with the facts and circumstances applying. The issue of allocation could clearly benefit from better-defined water rights.

The final chapter provides conclusions from the study, including a comparison of the three dimensions of rights and a reflection on the role of rights and obligations in attaining access to water.

Malini

– *We used to get water every day. And the pressure was so high that it flowed up to the tank on the roof without the pump. Now, we only get water delivered every other day, for some hours in the morning. Then I make sure that the sump under the house is filled and that is enough for us. And I water the plants on one side of the house that day. The next day I take the plants on the other side. The well in the backyard dried out long ago but we are connected to the Water Board network.*

Malini is a bit over 70 and a widow, originally from Kerala. The cottage into which she and her late husband moved is nowadays a part of a bigger, architect-drawn house shared by the extended family of four generations. The house lies in a typical middle-class area that used to be green and quiet before the growth of the city and commercialisation brought intensive traffic. It is equipped with solar panels to heat the tap water. The electric power supply is more problematic. After paying a large amount of ‘speed money’ to a middleman, a two-phase system is now installed, but the power is cut off at irregular intervals. Without electricity, no water is delivered to the system.

– *Of course, we can handle it. It’s worse for other people. I have a friend just two streets from here. Their house is situated just a little bit higher than ours, on a hillock. And they don’t get any water – the pressure is not enough.*

– *Even we don’t always get water during the summer. But then we just call the man, from the Board, and he comes with a truck to deliver. And if they don’t have enough, or we cannot wait for them, there is this other man we call. That’s private water. We have lots of numbers to call, you see.*

Chapter VIII

Right to water in Bangalore

1 The right to water: the Indian situation

1.1 Background

Indian law contains no statutory provision expressing a right to water for drinking or any other purposes. Nevertheless, as party to the ICESCR, the Convention on the Elimination of all Forms of Discrimination Against Women and the Convention on the Rights of the Child, India is to respect, protect and fulfil the human right to water. More important, though, binding law on access has been shaped from the fundamental right articulated in Art 21 of the Constitution: “No person shall be deprived of his life or personal liberty except according to procedure established by law”. A right to water, and corresponding obligations, have been attributed to this provision as result of an interpretative process, details of which will be presented in this sub-section.

The development of a right to water in India must be seen in the light of how the Supreme Court evolved, over a period of around fifty years, from being a positivist court into one characterised by activism.⁹⁹² Progress started from the black-letter tradition of colonial and post-colonial times. It stood still during the State of Emergency (1975-1977) and then developed essentially during the current era of judicial activism. The context and spirit of social justice prevailing since the beginning of this latter period made it possible to pronounce and perfect the right to water. Two cases, both mentioned in Chapter IV, mark important stages on the road

⁹⁹² Cf. Sathe, p. 6.

to the Court's current position. One is *A.K. Gopalan v. State of Madras* (1950), in which a strict interpretation of Art 21 was made.⁹⁹³ The beginning of the 1970s was a period of political instability, and the then Prime Minister Indira Gandhi imposed a State of (internal) Emergency in 1975, among other things to put an end to opposition. This led to India being ruled by decree from Delhi for a period of nineteen months. After Indira Gandhi was defeated in general elections in 1977, the Supreme Court delivered its very liberal landmark decision in *Maneka Gandhi v. Union of India*, 1978.⁹⁹⁴

The *Maneka Gandhi* case involved the question of freedom of movement – the liberty of the petitioner to travel had been restrained. The Supreme Court took the opportunity to overrule the judgment in *Gopalan*, by interpreting the terms 'life' and 'personal liberty' in Art 21 in a wider significance:

“The fundamental rights in Part III of the Constitution represent the basic values cherished by the people of this country since the Vedic times and they are calculated to protect the *dignity* of the individual and create conditions in which every human being can develop his personality to the fullest extent... It is obvious that Article 21 *though couched in negative language* confers fundamental right *to life* and personal liberty” (emphasis added).⁹⁹⁵

By expanding the meaning and scope of Art 21 it came to enshrine a positive 'right to'. This stance paved way to a role of the Supreme Court as a political body dealing with political, social and economic issues, and to the entire environmental jurisprudence. From the concept of 'dignity', a number of concomitant attributes to Art 21 emanated, notably the right to livelihood and the right to potable drinking water.

1.2 Access to drinking water – a fundamental right

The next important precedent in the Supreme Court's line of reasoning was *Francis Coralie Mullin v. Administrator, Union Territory of Delhi* (1981), wherein the Supreme Court provided more substance to the concept of 'human dignity':

“We think that the right to life includes the right *to live with human dignity and all that goes along with it*, namely, the *bare necessities* of life *such as* adequate nutrition, clothing, shelter over the head and facilities for reading, writing and expressing oneself in diverse forms, freely moving about and mixing and commingling with fellow human beings” (emphasis added).⁹⁹⁶

The words chosen in *Francis Mullin* reflect the Universal Declaration of Human Rights of 1948: 'everyone has the right to a *standard of living adequate* for the health

⁹⁹³ *A.K. Gopalan v State of Madras* AIR 1950 SC 27.

⁹⁹⁴ 1978(2) SCR 621 = AIR 1978 SC 597.

⁹⁹⁵ *Maneka Gandhi* AIR 1978 SC 597, pp. 620-21. The Court here also said that “these freedoms are not and cannot be absolute, for absolute and unrestricted freedom of one may be destructive of the freedom of another. In a well ordered civilised society, freedom can only be regulated freedom”.

⁹⁹⁶ (1981) 1 SCC 608, para 8, pp. 618f.

and well-being of himself and of his family' (Art 25). Both contain a non-exhaustive enumeration of rights, and the wordings 'such as...' in *Francis Mullin* correspond to 'including food, clothing, housing...' in the Universal Declaration. We saw in chapter V how commentators hold that the latter was not meant to be all-inclusive but *representative* or *indicative* of an adequate standard of living.⁹⁹⁷ We can interpret *Francis Mullin* similarly: water was not mentioned but this does not mean it was meant to be excluded. The contrary is more likely, given that water is the very 'bare necessity of life'.

The omission of an explicit reference to 'water' was eventually adjusted in the mentioned landmark case *Bandhua Mukti Morcha*.⁹⁹⁸ The case was one of the very first PILs and concerned the living and working conditions of bonded labourers in a stone quarry. The prevailing conditions of the labourers, which included having only dirty water from a *nullah* (a semi-dry stream) to drink, was considered as depriving them of their right to life. "There can be no doubt", said the Court, "that pure drinking water is *absolutely essential* to the health and well-being of the workmen and some authority has to be *responsible* for providing it" (emphasis added).⁹⁹⁹

The Court also held, by reiterating what was laid down in *Francis Mullin*, that under the interpretation given to Art 21 it is the fundamental right of every person in India to *be assured* a life with human dignity.¹⁰⁰⁰ After lengthy discussions of the need for clean water and sanitation facilities, the Court hence issued directions to the Central Government and the State Government that workers should *be provided* with pure drinking water etc. so that they may live in dignity. The Court has also monitored the implementation of these directions in subsequent orders.¹⁰⁰¹

It was held by the Kerala High Court in the cases *Attakoya Thangal v. Union of India* and *F.K. Hussain v. Union of India* that the right to sweet water is an attribute of the right to life.¹⁰⁰² The cases concern the Lakshadweep coral isles where the local administration had initiated a scheme to augment water supply by digging additional wells and drawing water by means of pumps, to meet the increasing needs. The petitioners' fear was that this would cause salt water intrusion and "upset the fresh water equilibrium". Judge *Sankaran Nair* further held that

"[t]he Executive Government has onerous *responsibilities* in the matter of providing civic amenities. The Technocrat too has his role to play, in view of the impact the matter has on environmental and hydrogeological concerns. There must be an effective and wholesome *interdisciplinary interaction*. At once, the administrative agency cannot be permitted to function in such a manner as to make inroads, into the fundamental right under Art 21. The right to life is much more than the right to

⁹⁹⁷ Gleick 2007, p. 2.

⁹⁹⁸ 1984 SCC (3) 161 = 1983 SCALE (2)1151.

⁹⁹⁹ *Ibid.*

¹⁰⁰⁰ *Ibid.*, para 2.

¹⁰⁰¹ *Cf.*, for instance *Bandhua Mukti Morcha v. Union of India* (1997) 10 SCC 549 which dealt with child labour. The Court then reminded that right to potable water has been held to be a fundamental right.

¹⁰⁰² 1990(1) KLT 580 and AIR 1990 Ker. 321, respectively (identical case reports).

animal existence and its attributes are many fold, as life itself. A *prioritization of human needs* and a *new value system* has been recognized in these areas” (emphasis added).¹⁰⁰³

The judge continued by holding that water management may be one of the biggest challenges in the future, and that water resources therefore have to be conserved. Restrictions embracing the total situation would be necessary and safeguards be evolved, but it was also maintained that “even a basically conventional society may go in for *modern means* and make use of pumps to draw water from private wells” (emphasis added).¹⁰⁰⁴

Although several scientific investigations by NEERI and other organisations had already been carried out, the Judge directed that the matter be referred to the Ministry of Science and Technology and the Ministry of Environment:

“The Scheme as envisaged shall *not be implemented until* it gets the final green signal from the aforesaid agencies. I say so, because some of the suggestions indicated by the administration in its counter-affidavit do not seem to be satisfactory” (emphasis added).¹⁰⁰⁵

No doubt, interesting and important issues are at hand in the cases – and they are noteworthy for being the first in which a Judge expresses the existence of a ‘right to water’. *Bas de Gaay Fortman* writes that the findings of the Judge “indicated a strong disposition to preserve groundwater as a natural resource”.¹⁰⁰⁶ *P. Leelakrishnan* has interpreted the case(s) as being a question of short-term benefits in relation to long-term harm.¹⁰⁰⁷ I perceive the message given as rather double and not much elaborated on by the Court, though.

The *Attakoya Thangal* and *F.K. Hussain* cases are merely conditionally authoritative, given that the decision was made by a Single judge High Court. The point established – that *the right* to sweet water is an attribute of *the right* to life – is further of rather low precedential value because the relevant Supreme Court precedents in which Art 21 had previously been interpreted were not noticed by reference, though certain formulations from them were reproduced briefly.

The landmark case is instead *Subhash Kumar v. State of Bihar* (1991), in which the Supreme Court concisely observed that the

“[r]ight to *live* is a fundamental right under Article 21 of the Constitution and it *includes the right of enjoyment of pollution-free water* and air for full enjoyment of life” (emphasis added).¹⁰⁰⁸

¹⁰⁰³ *Ibid*, para 7 (same in both case reports).

¹⁰⁰⁴ *Ibid*, para 11 (same in both case reports).

¹⁰⁰⁵ *Ibid*, para 12 (same in both case reports).

¹⁰⁰⁶ Gaay Fortman 2006a, p. 35.

¹⁰⁰⁷ Leelakrishnan, p. 200.

¹⁰⁰⁸ AIR 1991 SC 420 = (1991) 1 SCC 598, para 7. The word ‘enjoy’ should mean to have the use or benefit of something.

In *Vellore Citizens'*, the Supreme Court affirmed the principle of *Subash Kumar* by saying that “[t]he constitutional and statutory provisions protect a person’s right to clean water as well as to fresh air and pollution-free environment”.¹⁰⁰⁹ In *Narmada Bachao Andolan* – the above-mentioned case regarding the large *Sardar Sarovar Dam Project* on the Narmada River – Justice Kirpal held that

“[w]ater is the basic need for the survival of human beings and is part of right of life and *human rights* as *enshrined* in Article 21 of the Constitution of India... The Resolution of the U.N.O. in 1977 to which India is a signatory, during the United Nations Water Conference resolved unanimously *inter alia* as under:

All people, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantum and of a quality equal to their basic needs” (emphasis added).¹⁰¹⁰

‘U.N.O.’ is the name under which the UN was known up till around 1950, and the Resolution from 1977 refers to the Mar del Plata Action Plan and the wording on water supply therein. In the interpretation of fundamental rights under the Constitution, Indian courts must keep in mind principles embodied in international conventions to which India is a signatory. As far as possible the courts must give effect to principles contained in such instruments,¹⁰¹¹ being just what the Supreme Court did in the *Narmada Bachao Andolan* case. This is so far the only court decision in which the right to water is formulated as a *human* right, and the only one in which any binding or non-binding UN documents are acknowledged.

From what is quoted above the precedential value would seem high, but the *Narmada Bachao Andolan* case is seldom cited as laying down law regarding the right to drinking water. Presumably the problem is connected with how the case concerns the legality, morality and ecological soundness of building thousands of dams on the Narmada river, thereby causing the relocation of many thousands of villagers (unofficially, between 500,000 and 4 million people are estimated to be affected) and an environmental impact never properly assessed. Another factor possibly contributing to the scant respect paid to the judgment is that it was decided by a majority of two justices against one dissenting. *Thayer Scudder* has written about the judges’ decision-making that

“[s]o prejudicial, biased in regard to development options, and ill-informed was the order of the majority, that the third justice disassociated himself from it – ‘I have read the judgment proposed [to be delivered... Respectfully,] I regret my inability to agree therewith’. Opposition immediately followed from all levels of Indian society including former judges in India’s judicial system, former national and

¹⁰⁰⁹ *Vellore Citizens’ Welfare Forum v. Union of India* (1996) 5 SCC 647.

¹⁰¹⁰ AIR 2000 SC 3751 = (2000) 10 SCC 664 = 2000(7) SCALE 34, para 248.

¹⁰¹¹ *Cf. Apparel Export Promotion Council v. A.K. Chopra* 2000(1) SLJ SC 65 = AIR 1999 SC 625, in which the Supreme Court held that the Courts are under an obligation to give due regard to the international conventions and norms while construing domestic laws, and more so when there is no inconsistency between them and the domestic laws.

state ministers and civil service secretaries, and prominent religious, human rights and social leaders, and, of course, from affected people and NGOs”.¹⁰¹²

Justice *Bharucha*, delivering the lengthy minority judgment, emphasised the need for proper assessments, surveys and studies of the environmental impact, during which time further construction work on the dam should cease. The Court perceived that it had to rule to the effect of balancing vital interests, but the executive failed greatly in this regard. Several decisions in relation to the multipurpose *Sardar Sarovar* project seem to have been justified with reference to the need for drinking water:

“It is a matter of great concern that even after half a century of freedom, water is not available to all citizens even for their basic drinking necessity violating the human right resolution of [the UN] and Article 21 of the Constitution of India. Water in the rivers of India has great potentiality to change the miserable condition of the arid, drought-prone and border areas of India”.¹⁰¹³

Much of the same argument as in the above quotation was also brought up in the *A.P. Pollution Control Board II*.¹⁰¹⁴ Thus reference was made to the Mar del Plata Conference and the *Narmada Bachao Andolan*. The Judges held the *right to access to drinking water* to be fundamental to life. Among the orders passed in the case, the Court ruled that the State Government jointly with the Pollution Control Board was to prevent pollution of the drinking water in the two reservoirs in question by, among other things, not permitting any polluting industries within a 10 km radius.

1.3 Limits to the right to water

The scope of the right to water was discussed by a Division Bench of the High Court of Karnataka in *Venkatagiriappa v. Karnataka Electricity Board* in 1998.¹⁰¹⁵ The decision was taken in view of previous and conflicting judgments, and foremost in relation to *Puttappa Honnappa Talavar v. the Deputy Commissioner, Dharwad & ors.* from 1997.¹⁰¹⁶ In *Puttappa*, the Judge had construed Art 21 to the effect that ‘the right’ to dig bore-wells was only to be restricted by the Legislature. This reading of Art 21 was radical in comparison to the case law laid down by the Supreme Court. The Division Bench now wanted to make an ‘authoritative pronouncement’ in regard to, among other issues, whether a citizen has a fundamental or other right to draw subsoil water for irrigation, business, or drinking purposes, and whether such a right was part of the right to life or livelihood under Art 21.

The question concerned farmers who had dug bore-wells on their lands, to draw groundwater for irrigation. When they applied to the Electricity Board for electricity service for their pump sets, the Board rejected the application with reference to a circular and a Government Order. Accordingly, a minimum distance of 825 feet

¹⁰¹² Scudder, p. 2., referring to L.C. Jain. *Cf.* para 252 of the judgment.

¹⁰¹³ (2000) 10 SCC 664, para 245.

¹⁰¹⁴ (2001) 2 SCC 62.

¹⁰¹⁵ 1999 (4) Kar LJ 482.

¹⁰¹⁶ 1997 (3) Kar 136 LJ = AIR 1998 Karn 10.

(about 250 m) was stipulated between public wells dug by the authorities involved in the Rural Water Supply Scheme, and private bore-wells equipped with irrigation pump sets. The Government Order had been issued as a response to the problem of depleting water tables in the public wells, in line with a report on the State's groundwater status, and in the interest of the larger community. The petitioning farmers asserted that their fundamental right to water under Art 21 had been violated. The Court in *Venkatagiriappa* held that

“[I]n a developing country like India, no citizen can claim *absolute right* over the natural resources ignoring the claims of other citizens. It is true that life without water cannot be conceived. But, it is equally true that water resources being limited, its user has to be regulated and restricted in the larger interests of the society and for the welfare of the human beings. We are, therefore, of the opinion that the right under Article 21 which is available to all the citizens, can be held *at the most to have water for drinking purposes*, as, admittedly, without it, the life cannot be enjoyed at all. However, the right to have water for irrigation purposes cannot be stretched to the extent of bringing it within the ambit of Article 21 of the Constitution of India” (emphasis added).¹⁰¹⁷

The Court concluded by holding that an order restricting the spacing between groundwater extraction structures was justified. It also reminded the State of its “obligations to take effective steps for bringing out appropriate legislation on the subject”,¹⁰¹⁸ referring to the long-overdue implementation of the Groundwater Bill.¹⁰¹⁹

Where the *Puttappa* judgment can be perceived as messy and reflecting an either biased or somewhat ignorant attitude in the Judge, the whole *Venkatagiriappa* judgment is an exemplary precedent. The case should serve as a sound example also to other High Courts on similar issues.

1.4 Prioritising human needs

In several court cases, a more or less express priority has been given to environmental values and human life over industrial activities and, indirectly, employment opportunities. As the Court held in *M.C. Mehta v. Union of India* (1987), “[l]ife, public health and ecology has priority over unemployment and loss of revenue problem”.¹⁰²⁰ As we saw above, this question was on the other hand balanced differently in the *Narmada* case, where (economic) development rather than /pre/caution and conservation were voted for.

The earliest of the balancing acts regarding water was seen in the *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh* (the Doon Valley case, also known as

¹⁰¹⁷ *Ibid*, para 7 (a).

¹⁰¹⁸ *Ibid*, para 15 (c), 9

¹⁰¹⁹ The Ground Water Bill will be discussed in the following chapter.

¹⁰²⁰ (1987) 4 SCC 463, p. 482, para 22.

the Dehradun Quarrying case), first adjudged in 1985.¹⁰²¹ Limestone quarries had adversely affected local water springs and the health of nearby residents, but the actual *need* for limestone quarrying for industrial purposes in the country was weighed and taken into account. The Court, in ordering closure of the facilities, noted that the hardship caused to the lessees (the right-holders) “is a price that has to be paid for protecting and safeguarding the right of the people to live in a healthy environment with minimal disturbances to ecological balance”.¹⁰²² Taking up the case soon again, it was stated that

“the Court is not oblivious of the fact that the *natural resources have to be tapped* for the purposes of social development but one cannot forget of the same time that tapping of resources have to be done with requisite attention and care so that ecology and environment may not be affected in any serious way; *there may not be any depletion of water resources* and long term planning must be undertaken to keep up the national wealth” (emphasis added).¹⁰²³

The balancing act performed seems to be founded on the principle of *sustainable* development, although this notion was not mentioned. The case is remarkable also as decided at a time when no Supreme Court precedent had expressly derived the right to a healthy environment from Art 21. The premier order (of 1985) was later “understood on the basis that the Supreme Court entertained those environmental complaints under Article 32 of the Constitution involving violation of Article 21’s right to life” (emphasis added).¹⁰²⁴ We will return to the case in relation to groundwater issues below.

A dispute between the water board of India’s capital city and an upstream State regarding release of water through the River Yamuna was decided in *Delhi Water Supply & Sewerage Disposal Undertaking & anr. v. State of Haryana & ors.* in 1996. The major source of raw water to Delhi is released from the State of Haryana, and controlled by the Haryana Government Irrigation Department. The amount of water to be shared is regulated in a legally-binding Memorandum of Understanding signed by five States including the National Capital Territory of Delhi.¹⁰²⁵ The Supreme Court directed that Delhi was to continue to get as much water for domestic use from the State of Haryana through the River Yamuna as can be consumed and contained in two given water reservoirs and treatment plants.¹⁰²⁶ Justice Kuldip Singh laid down a clear order of priority:

¹⁰²¹ *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh* AIR 1985 SC 652. The Court has issued a number of orders and opinions in this case.

¹⁰²² *Ibid.*, pp. 656f.

¹⁰²³ *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh* AIR 1987 SC 359, para 6.

¹⁰²⁴ *T. Damodhar Rao v. Special Officer, Municipal Corporation of Hyderabad* AIR 1987 AP 171, cited in Divan & Rosencranz, p. 394.

¹⁰²⁵ Per 30 September 2007, the extended metropolitan population of Delhi comprised almost 22 million people (14 millions according to the Indian census, 2001).

¹⁰²⁶ 1996 SCC (2) 572 JT, para 10.

“Water is a gift of nature... The *primary use* to which the water is put being *drinking*, it would be mocking the nature to force the people who live on the bank of a river to remain thirsty, whereas others incidentally placed in an advantageous position are allowed to use the water for *non-drinking purposes*. A river has to flow through some territory; and it would be *travesty of justice* if the upper-riparian States were to use its water for purposes like irrigation, denying the lower riparian States the benefit of using the water even for quenching the thirst of its residents” (emphasis added).¹⁰²⁷

The reasoning is similar to that of the Karnataka High Court in *Venkatagiriyyappa*, where a clear priority was given to drinking water.¹⁰²⁸

The case *Intellectuals Forum, Tirupathi v. State of AP & Ors.* (2006) concerned the balancing between rapid urban growth and ecological as well as human interests.¹⁰²⁹ Two tanks – in existence since the time of *Srikrishnadevaraya* (1500 C.E.) and one of which is a world renowned pilgrim centre – were situated in what had become a suburban area. Their more recent use for irrigation, drinking water, and percolation to improve the groundwater table had been disturbed by the State government’s plans for a residential area, which encroached upon the tank beds (the catchment area). With reference to *Kamal Nath* and the 1972 Stockholm Declaration, the Court held that “there is no doubt about the fact that there is a *responsibility bestowed upon* the Government to protect and preserve the tanks” (emphasis added). The Court also emphasised the concept of sustainable development, the public trust doctrine, the principle of ‘Inter-Generational Equity’, and Art 14, 21, 48A and 51A of the Constitution. In addition, as the housing scheme was planned to suit high- and middle-income families, institutions, and a Hindu temple trust (called the TTD), it was concluded that

“[i]f the proposed constructions are not carried on, it seems *unlikely that anyone will be left homeless* or without their basic need for shelter. Therefore, one feels that the right to shelter does not seem to be so pressing under the present circumstances so as to outweigh all environmental considerations” (emphasis added).¹⁰³⁰

A balancing between a fundamental right to housing and environmental concerns hence favoured the latter. The Court moreover ordered numerous detailed measures to be carried out to rejuvenate the tanks, such as mandatory rainwater harvesting, clearing of supply channels, no bore- or tubewells to be allowed in the areas, and so on. It seems clear that the Judges had taken an interest in the potential of rainwater harvesting to mitigate the falling of the groundwater table. Further, the

¹⁰²⁷ 1996 SCC (2) 572 JT. It can be added that the inhabitants of Delhi live in an almost permanent situation of acute water stress and that Haryana has continued to show contempt for the MoU. Groundwater now dominates the irrigation among the farmers in Haryana, and the problems connected with over-extraction has become a serious threat to the wheat production.

¹⁰²⁸ 1999(4) Karn LJ 482.

¹⁰²⁹ AIR 2006 SC 1350.

¹⁰³⁰ *Ibid.*

irrigation sluices were to be kept an eye on and though it is not explicitly said, recharge of the unsaturated horizons seems to be the priority.¹⁰³¹

It was contended in the case that apart from the dispute brought before the Court it also “falls on this court to lay down the law regarding the use of public lands or natural resources” at a more jurisprudential level. What the judgment of *Intellectuals’ Forum* adds to the established case law is the value of tanks, not least from the perspective of long-term groundwater conservation, and regardless of them being in top condition or not. As the case is not primarily concerned with the right to water as a right to life as enshrined in Art 21, too far-reaching inferences should however not be drawn.

Despite clear pronouncements that drinking is the paramount use for water, there seem to be no direct opposition in the Supreme Court’s rulings between drinking water and water needed for food production. In *Intellectuals’ Forum* the tanks’ importance for irrigation purposes was also a factor contributing to the decision. But the different forms of ‘irrigation’ have not been discussed by the Court, and therefore the difference between water used for cash crops and subsistence farming, or between dry and wet crop varieties,¹⁰³² has not yet been subject to the Court’s balancing acts. Neither has the question of water markets – groundwater being drawn by landowners to quench other, paying consumers’ thirst – been tried.

We can compare this with the case of *Jagannath v. Union of India* (the Shrimp Culture Case).¹⁰³³ This dealt with the effects from the conversion of paddy (rice) fields into shrimp farms. The ‘Corporate sector’ had purchased areas which, in some instances, included public wells, and the villagers could no longer reach these to fetch drinking water. Salinisation of freshwater wells in the vicinity of prawn ponds was another problem, and unacceptably high levels of cadmium, magnesium, sulphate, chloride, and total dissolved solids (TDS) were recorded, making the water unpotable.¹⁰³⁴ Directions to prohibit aquaculture along the fragile coastline were issued: a shrimp industry is to be permitted only after passing a strict environment test. The Court further ordered that *any* aquaculture activity which has the effect of causing salinity of the drinking water or wells shall not be allowed.¹⁰³⁵ However, it was the ‘non-traditional’ shrimp farms that were the target, considering that the produce of these was for ‘dollar export’ only. Possibly, the same reasoning could be applied in competition over freshwater between the growing of basmati rice (a water-intensive, irrigated cash crop grown mainly for export) and drinking water needs, both in the local area and ‘downstream’ as was ruled in *Delhi Water Supply v. Haryana*.

¹⁰³¹ Order with regard to Peruru tank, para (iv).

¹⁰³² Irrigated dry crops include pulses, sesame, groundnut, sugarcane, maize, wheat and oilseeds. Paddy (rice) and sugar cane are wet crops.

¹⁰³³ (1997) 2 SCC 87 = AIR 1997 SC 811, para 52.

¹⁰³⁴ *Ibid.*, para 32.

¹⁰³⁵ *Ibid.*, para 52(9). As noted by Divan & Rosencranz, p. 495, the judgment met with ‘stiff resistance’ from the Centre Government as well as the States. Shortly after Justice Kuldip Singh had retired in 1997, the matter was referred to a three-judge bench which immediately stayed demolition of the aqua-farms. Cf. 1997 (5) SCALE 406; 1997 (6) SCALE (SP).

1.5 Duties and obligations

We have seen that the judges in many of the cases dealt with here have declared the existence of rights and entitlements under Art 21 and put responsibilities, duties and obligations on the authorities. We will now take a closer look at how this latter, correlative element of the concept of ‘rights’ has been formulated and what this seems to mean for the decision-making, etc., role of the States. In relation to the general environment, there is a constitutional imperative on the State governments and the municipalities not only to ensure and safeguard a proper environment but also to take adequate measures to promote, protect and improve both the man-made and the natural environment, according to the decision in *Virender Gaur*.¹⁰³⁶

As to drinking water it was pointed out in *Narmada Bachao Andolan* that the human right to water as enshrined in Art 21 “can be *served only by providing* [a] source of water where there is none” (emphasis added).¹⁰³⁷ The High Court of Andhra Pradesh has subsequently held, in regard to naturally fluoride-contaminated water, that “under the Constitution, the role of the State to *provide* every citizen with adequate clean drinking water and to *protect water from getting polluted* is not only a fundamental directive principle in the governance of the state but is also a penumbral right under Article 21 of the Constitution of India” (emphasis added).¹⁰³⁸

As the authorities have a *duty to supply* healthy drinking water to citizens, they are also *entitled* to regulate polluting activities within the area, as pointed out in *Ramji Patel v. Nagrik Upbhokta Marg Darshak Manch*.¹⁰³⁹

The obligation on the government authorities in regard to tanks has its limits, though. As ruled in *Mrs. Susetha v. State of Tamil Nadu and Ors.*, a man-made tank in a dilapidated condition and situated in an area with other tanks to recharge the groundwater levels, could be converted into, for instance, a commercial centre.¹⁰⁴⁰ The authorities in charge were, nevertheless, directed to see that other tanks in or around the village in question were properly maintained, and that necessary steps were taken to mitigate water shortage and preserve the ecology.

It should also be mentioned that in an interim injunction to the *Shrimp Culture* Case, the Supreme Court had directed the State Governments of Tamil Nadu and Andhra Pradesh to provide drinking water to deprived villagers by way of tankers ‘wherever it was necessary’.¹⁰⁴¹ Such a remedial direction was not repeated in the final order, neither was any right to water mentioned by invoking Art 21.

¹⁰³⁶ 1995 (2) SCC 577, pp. 580f.

¹⁰³⁷ *Narmada Bachao Andolan* (2000) 10 SCC 664 = 2000(7) SCALE 34, para 248.

¹⁰³⁸ P.R. Subbash Chandran v. Government of A.P. 2001 (5) ALD 771 (DB). Cf. *A.P. Pollution Control Board II* (2001) 2 SCC 62.

¹⁰³⁹ 2000 (3) SCC 29. In this case, it meant that dairies with cattle that produced dung and other waste could be prohibited near a water filtration and main pipeline, and the owners could be displaced.

¹⁰⁴⁰ AIR 2006 SC 2893 = 2006 (7) SCALE 640 = (2006) 6 SCC 543.

¹⁰⁴¹ *Jagannath v. Union of India* 1995(5) SCALE 126; cf. *Jagannath v. Union of India* AIR 1997 SC 811, para 4.

In the *Delhi Water Supply* case, the Court also directed the State of Haryana through all its officers who were party to the proceedings and who had filed affidavits before the Supreme Court *not to obstruct* the supply of water to Delhi as directed by the Court at any time: “any violation of this direction would be viewed seriously and the guilty persons would be dealt with appropriately. This order of ours would bind, not only the parties to this proceeding, but also the Upper Yamuna River Board” (emphasis added).¹⁰⁴²

In other words, individuals as well as employees are also subject to responsibilities. Art 51A(g) of the Constitution stipulates that every citizen is duty bound to protect and improve the environment, including water. Similarly, jural persons (legal entities such as companies) are under a burden of proof, subject to liabilities related to the polluter pays principle, etc. The Supreme Court has decided numerous such cases with the effect of closing down factories after due balancing of the interests involved.

1.6 Constitutional amendments as proposed

Although Indian law is now equipped with a right to drinking water, the system is evidently far from perfect. Many gaps are still left for interpretation. So far, the judiciary has performed a fundamental part of its task in this regard – but there is also a job for the legislature to do: review existing acts and rules, including the Constitution, as well as enact new law.

In 2000, a National Commission to Review the Working of the Constitution was set up. It examined how the Constitution could best respond to the changing needs of modern India in terms of efficient, smooth and effective systems of governance and socioeconomic development within the framework of Parliamentary democracy. Among the recommendations for amendments to the Constitution submitted in 2002 was a new clause for incorporation into Art 21. The Commission concluded that as a result of judicial decisions, certain fundamental rights not explicitly mentioned in the Constitution but serving to guarantee fundamental rights have been inferred or deduced from the specified and guaranteed fundamental rights. Accordingly, it was proposed that every person who has been illegally deprived of his right to life or liberty should have an *enforceable right to compensation* as a right to remedy for violation of Article 21.¹⁰⁴³

A consolidated right to a clean and healthy environment was also on the agenda. The Commission finally recommended that the following – new – article be added to the Constitution:

“Art. 30-D. Right to safe drinking water, prevention of pollution, conservation of ecology and sustainable development. -

¹⁰⁴² 1996 SCC (2) 572 JT, para 11.

¹⁰⁴³ Ministry of Law & Justice, National Commission to Review the Working of the Constitution Consultation Paper Enlargement of Fundamental Rights, para 27; Final Report, Vol. I, Ch 3, para 3.10.

Every person shall have the right -

- (a) to safe drinking water;
- (b) to an environment that is not harmful to one's health or well-being; and
- (c) to have the environment protected, for the benefit of present and future generations so as to –
 - (i) prevent pollution and ecological degradation;
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.¹⁰⁴⁴

Though the provision is aimed predominantly at environment protection, its Introduction spells out the (human) right to drinking water. This is an important recognition of the need to codify case law as it currently stands. The provision quoted was motivated by two loose and general references, which give no in-depth understanding of how the Commission seeks to justify the proposed amendment. First, it is observed that “Gandhiji had once said that freedom for him would mean the availability of safe drinking water to every person in every village of India”, and secondly, the Report refers to the ‘third generation rights’ declared by the UN General Assembly “as an inalienable human right”.¹⁰⁴⁵

Both from the Consultation Paper on Enlargement of Fundamental Rights and the Minutes of meetings of the Commissions,¹⁰⁴⁶ it is clear that the cited Art 30-D was revised a number of times. As sub-section (a) on safe drinking water is not mentioned in these documents, it must have been included only at the very last stage, but there is no indication of why this was done or who took the initiative. It is therefore also difficult to assess the strength of support this part of the draft has.

The right to water expressly refers to ‘drinking’. With such a definition, there will be a need for Supreme Court decisions to expand the meaning of the provision to make it cater also for, i.a., other basic household needs. We must assume that such an interpretation was intended; but a court will nevertheless have to construe the ‘right to safe drinking water’ as applying also to certain other purposes. It is also interesting to note the criterion ‘safe’ in relation to this right to water. A court will have to define what ‘safe’ means in terms of (minimum) level of quality, probably in relation to the WHO guidelines. There is further a need for an authoritative decision on the quantity of drinking water to which each person is entitled. Again, this may relate to the standards of the WHO and other UN organs.

However, these are only speculations – the Report of the National Commission to Review the Working of the Constitution was immediately tabled with the Centre Government and Parliament, and then circulated among the States for their opinions. It is unknown what has happened to the draft since.¹⁰⁴⁷ Reportedly, after submitting the Report, Chairperson Justice *Venkatachaliab* “maintained his position that

¹⁰⁴⁴ *Ibid*, Final Report, Vol. I, Ch 3, para 3.22.3.

¹⁰⁴⁵ *Ibid*, para 3.22.1-2. ‘Gandhiji’ refers to *Mahatma* (M.K.) Gandhi.

¹⁰⁴⁶ *Ibid*.

¹⁰⁴⁷ As of April 2008.

the Commission was intended *only as an academic exercise*, to suggest amendments to the Constitution and certain legal and executive measures meant to strengthen constitutional provisions. *Making no claims to legitimacy at all*, the Commission has left it to Parliament and the States to decide which of its 249 recommendations are implementable” (emphasis added).¹⁰⁴⁸

Regardless of whether an amendment such as the above is introduced in the Constitution, some pertinent questions will remain and await further directions from the courts and/or the legislature at both federal and State levels. Foremost, this concerns the question of quantity – how much water should be made available as a matter of right – and how far the cost should be subsidised.

1.7 The right to drinking water in policy

In the absence of statutory regulation in the field of drinking water, non-binding policies and plans for the water supply and sanitation sector have been drafted and adopted by Indian authorities at both national and State levels. The privatisation of water services is a strong, and often express, theme in these. Actors such as the World Bank, the Asian Development Bank (ADB) and the Japan Bank of International Cooperation (JBIC) are present as financiers of and consultants on the policies in some cases. Several have two more things in common: they are informed by a cost-recovery approach, and do not acknowledge water as a right.

The Indian National Water Policy was adopted in 2002.¹⁰⁴⁹ It recognises that ‘complex issues of equity and social justice in regard to water distribution are required to be addressed’, and states that in the planning and operation of ‘systems’, a certain order of priority should be followed for water allocation. Hence, *drinking water* should take precedence over *irrigation*, then come *hydro-power*, *ecology*, *agro-industries* and *non-agricultural industries*, and lastly *navigation* and other uses. The priorities could be modified if warranted by area-/region-specific considerations. In the planning for ‘water resource development projects’, provision for drinking water should be a primary consideration (as shall, similarly, ‘the preservation of the quality of environment and the ecological balance’). According to the Policy, adequate safe drinking water facilities should be provided to the entire population both in urban and in rural areas. Irrigation and multipurpose projects should invariably include a drinking-water component, wherever there is no alternative source of drinking water. The drinking-water needs of human beings and animals should be the first charge on any available water. Private sector participation should be encouraged ‘wherever feasible’.

The Policy is both toothless and superficial. It does not recognise the (binding) right to water, it ignores factual gender differences relating to water, it is not supported by any legislation, it lacks an action plan or the like for its implementation, and it does not point out any authority or other body as even generally responsible.

¹⁰⁴⁸ Venkatesan.

¹⁰⁴⁹ Ministry of Water Resources, Government of India.

The same critique can be directed to the States' own water policies, where such exist. Karnataka's was adopted in 2002 and is, in some parts, similar to the content of National Policy, stating for instance that drinking water is the priority.¹⁰⁵⁰ Among 'key issues', the latter consequently notes that "[t]he demand for drinking water in the urban and rural areas will increase in the coming years. This demand cannot be met entirely from groundwater sources... Therefore, in the next two decades water supply systems for larger habitations will have to be based on surface water sources like perennial rivers and reservoirs *and reduction in the irrigation water use may be inevitable*" (para 5.8) (emphasis added). A 'future vision' is that "[i]rrigation and multi purpose projects will invariably include drinking water component" (para 6.2).

Efforts have been made to provide safe drinking water in rural areas by allocating funds in State budgets ever since the very first Five Year Plan of 1951-1956. The Central Government assists the States through programmes such as the Accelerated Rural Water Supply Programme, for towns with up to 200,000 inhabitants, and the Rajiv Gandhi National Drinking Water Mission for rural areas. Water supply is not talked of as a right in these documents, and the responsibilities of the States in providing the water are vaguely formulated.

Karnataka seems to have adopted a specific Urban Drinking Water and Sanitation Policy in 2003.¹⁰⁵¹ It starts by saying that "[g]ood quality reliable drinking water supply and sanitation are essential basic *needs of every citizen*" (emphasis added) and continues by stating the efforts

- "to provide *all* residents of urban areas of the State, piped water supply and sanitation services at or near their dwellings...
- Ensure *universal* coverage of water and sanitation services that people want *and are willing to pay for* and
 - To do so in a manner that preserves the *sustainability* of the precious water resources of the State, project *and enhances the commercial and economical sustainability* of the operations at the same time.
 - Ensure a *minimum level* of service to *all citizens*" (emphasis added).¹⁰⁵²

These objectives give a fairly comprehensive impression – each and every urban citizen is to be provided with water and the service is to be such that people are willing to pay for it, ecological and economic sustainability is to be preserved – but water is nowhere mentioned as a right and social aspects of sustainability are missing. Those living in poverty, unable to pay the costs of water services, are omitted from this Policy. The State Government also sets out to encourage the use of public private partnerships as well as private-sector participation to achieve the sector goals. Despite the autonomy of urban local bodies concerning water supply, "the State will monitor strictly policies relating to minimal tariff", "given the paramount

¹⁰⁵⁰ Government of Karnataka 2002.

¹⁰⁵¹ Government Order No UDD 236 UMS 2001, dated 03-05-2003. Available via IELRC web page 'Urban Drinking Water and Sanitation Policy, 2002'.

¹⁰⁵² Karnataka Urban Drinking Water and Sanitation Policy.

need for financial and commercial viability of the operations” (*sic*). Apart from a full cost recovery, the longer-term objective includes that ‘adequate tariffs’ should be set at levels ensuring “that revenues cover operations and maintenance costs, debt service *plus a reasonable return on capital*” (emphasis added).¹⁰⁵³ The latter is, as we will see, not in line with the Bangalore Water Board’s current ‘no loss, no profit’ organisation – but it may become so. In the medium term, however,

“subsidies will continue to be needed and will be focused in areas such as pockets and communities of extreme poverty... Tariff will be structured in a manner such as to disincentive excessive consumption and wastage of water, whilst ensuring at least a minimum ‘life line’ supply to the poor” (*sic*).¹⁰⁵⁴

The Government undertook to do preparatory work for full, but gradually introduced, private sector participation, by “fostering a culture of commercialization... and most importantly identifying and expediting the necessary legislative institutional and regularly changes that are necessary” (*sic*).¹⁰⁵⁵ Looking back at the Policy and its aims, it is obvious that the efforts “to achieve 100 percent metering and volumetric pricing” were not wholly met within the “realistic time frame of about five years”, thus by 2008. In several parts of the State, though, this is under way despite the required ‘culture’ or legislative amendments being in place. What is also lacking is a commitment to a minimum level of service to *all* citizens.

As little information is available on the above Policy, it is difficult to determine whether it remains on the agenda. Reform programmes are, nevertheless, undertaken by the Karnataka Urban Development Department with financial assistance from the World Bank and via a company called the Karnataka Urban Development Infrastructure and Finance Corporation (KUDIFC). Infrastructural projects in certain chosen municipalities aim, not least, at ‘reforming’ the water sector – against the backdrop of the State being one of the most rapidly urbanising in India. The objectives of the KUDIFC include providing financial and technical assistance to municipalities and development agencies, and mobilisation of funds from different sources such as the national Housing and Urban Development Corporation (HUDCO), another company.

As indicated, Indian planning is performed along the lines drawn by the Planning Commission in its Five Year Plans. *C. Ramachandraiah* writes that “[f]ollowing the structural adjustment policies in India since 1991, the Eighth Plan (1992-1997) made a significant departure from the past in giving a thrust towards privatization of water sector”. Thus, water came to be treated as an economic good like any other commodity. This has been a paradigm shift towards commercialisation of infrastructure services, including water. The Tenth Plan (2002-2007), however, advocated special provisions to the poor who have less capacity to pay.¹⁰⁵⁶

¹⁰⁵³ *Ibid.*

¹⁰⁵⁴ *Ibid.*

¹⁰⁵⁵ *Ibid.*

¹⁰⁵⁶ Ramachandraiah, p. 16.

In the Tenth Five Year Plan it was also proclaimed that safe drinking water should be provided in accordance with the stipulated norms on a sustainable basis to all habitations by March 2004 – but “[s]ince the availability of water in the country is going down with depletion of water table and the discharger of the rivers, a review of the requirements of the water is necessitated. With above thoughts in mind, the Government of India has *changed* the requirement levels of the rate of water supply to the individual and other users” (*sic*, emphasis added). The minimum standard for piped water supply was defined as 150 lpcd for metropolitan and large cities in the Tenth Five Year Plan (valid for 2002-2007), but since May 1999 this has now been the ‘desired’ level of supply. A minimum of 135 lpcd was instead set for large cities and metropolises.¹⁰⁵⁷ In the Karnataka Water Policy the level is also 135 lpcd for city corporation areas.

The directive principles of the Constitution can be interpreted as laying down a duty to legislate the human right to water for all. In addition, Ramachandraiah notes that “the State is duty bound to protect and enable the citizens to enjoy their rights. Any policy of the State that jeopardizes the ability of the citizens to realise their fundamental rights amounts to the violation of such rights”.¹⁰⁵⁸

We can see that the Indian government at various levels has, in both policies and plans, endorsed a view of drinking water as an issue to be prioritised; not necessarily through its own agency, though, but through the private sector. This is not as such incompatible with, e.g., General Comment No. 15. However, where ‘third parties’ provide the water which is a human right, the utmost responsibility for fulfilling the corresponding obligation remains with the state, which should also ensure that the water is affordable to all, based on the principle of equity.

1.8 Concluding remarks

Indian law provides for a fundamental (human) right to access to drinking water. The articulation of the right has been refined from the negative wording in Art 21 of the Constitution – the Indian equivalent of a Bill of Rights. Despite there not being any statutory provision specifying what the right entails, its scope and extent are well established:

- Art 21 of the Indian Constitution entails a positive right to life, a life in dignity and well-being (*Maneka Gandhi, Francis Coralie, Bandua Mukti Morcha*);
- This right includes enjoyment of and access to water (*Subhash Kumar, Vellore citizens’, Narmada Bachao Andolan, A.P. Pollution Control Board*);
- The right applies to drinking water (*Venkatagiriappa, cf. Bandua Mukti Morcha*);
- The water is to be pure, healthy, pollution-free, clean and adequate (*Bandua Mukti Morcha, Subhash Kumar, Vellore, P.R. Subhash Chandran*);

¹⁰⁵⁷ Planning Commission, Tenth Five Year Plan, para 6.2.9, on web page ‘Civic amenities in urban areas’; *cf.* web page ‘Chapter XI: Water supply...’.

¹⁰⁵⁸ Ramachandraiah, p. 16.

- The right to drinking water takes priority over water for non-drinking purposes (*Delhi Water Supply*);
- No right is to be seen as absolute at the cost of others' rights (*Venkatagiriappa, cf. Delhi Water Supply*).

It has been articulated, albeit not in detail, how the corresponding obligations and responsibilities are to be shouldered by the state and its authorities, regulated amongst the directive principles of the Constitution:

- The human right to water can be *served only by providing* a water source where there is none (*Narmada Bachao Andolan*);
- The authorities have a *duty to supply* healthy drinking water (*Ranji Patel*);
- The role of the state to *provide* every citizen with adequate clean drinking water is not only a constitutional principle but also a fundamental right (*P.R. Subbash Chandran*).

The court decisions regulating the 'obligation to provide' are yet too few to have clearly established the applicable law. Most important, the questions of a minimum quantity as a basic need and of tariffs have so far not been reviewed. Interviewed in 2003, *Videh Upadhyay* concluded that the Indian situation lacked specificity:

“The first and the foremost thing which we need to do is to clearly specify what right to clean drinking water means, which the Supreme Court of India (SC) upholds as a fundamental right. In last 5-6 years, many high courts have passed judgements on clean water, but there is *no clarity as to what that right means in quantitative and qualitative* means. Courts also leave it open-ended, free for interpretation. There needs to be categorical pronouncement by the SC as to what right to clean water means. The second important thing after this would be to see how this direction of the SC gets reflected in various statutes. Relevant changes would require to be made in specific sections of specific rules” (emphasis added).¹⁰⁵⁹

While we await the necessary 'categorical pronouncement by the SC' and this eventually 'gets reflected in various statutes', we are left to evaluate the applicable rules and practices. How far the local public bodies empowered to provide the water are also accountable is maybe the most interesting question. When the duties corresponding with the right to water are ill-defined, how is a claim for access to water to be made justiciable? To answer this we now look more closely at the Bangalore scene, after which a more general analysis can be made.

¹⁰⁵⁹ Anonymous 2003.

2 The right to water implemented: Bangalore

2.1 *Regulating supply, administering access*

On average, 88 percent of the urban population of India is said to have access to or be ‘covered’ by ‘organised’ water supply.¹⁰⁶⁰ However, there is reportedly a huge disparity in quantity of water supplied, inequitable distribution, erratic supplies, and water quality continuously degrading.¹⁰⁶¹ In 2002, the National Sample Survey Organisation estimated that about 97 percent of rural and 99 percent of urban dwellings had drinking water within half a kilometre of their premises.¹⁰⁶² Howard & Bartram in their study of physical access to water judged that a distance of between 100-1000 m to a source of water equals ‘basic access’, meaning that the level of concern for health and hygiene then remains high. It should also be taken into account that Indian statistics include such wells and taps as have once been installed but not maintained since – whether the water supply amenities actually provide any water is therefore an open question. The reported data must thus be read with some caution.

Chapter III described how each State is constitutionally empowered to plan, operate, and maintain tasks related to water. In Karnataka, water supply and sanitation services are carried out through the mandated local bodies – by the *Panchayats* for the villages and the Urban Water Supply and Drainage Board for all towns and cities, with the exception of Bangalore where the Water Board is in charge. Responsibility for implementing the (human) right to water is thus delegated, but the frames of the task are not laid down in much detail. The financial means to conduct these tasks are to be transferred from the State to the *Panchayats* as regulated by the 73rd Amendment to the Constitution, and the same applies in the urban environment according to the 74th Amendment, both decided in 1992. It is clear, however, that the bodies and authorities in question are mostly left to their own devices, funding the O&M with whatever means can be raised and borrowed.

The natural and man-made conditions of Bangalore’s drinking water sources were also outlined in Chapter III. According to the Central Public Health and Environmental Engineering Organisation, three-quarters of Bangaloreans had ‘house service connections’ in 2005 whereas the rest had access to water from standposts – *full* coverage was therefore reported.¹⁰⁶³ In the Bangalore Master Plan 2015, adopted in 2007, coverage is stated as 100 percent for the (erstwhile) Corporation area but only between 10-60 percent in the (erstwhile) municipalities. The ‘future service levels’ are set at 100 percent for the entire Bangalore Metropolitan Area, and with an average lpcd of 100, instead of today’s 73, supplied for 8 hours each

¹⁰⁶⁰ Cf. Raju, Praveen & Anand, p. 7; UNEP, p. 117.

¹⁰⁶¹ UNEP, p. 117.

¹⁰⁶² National Sample Survey Organisation 2004.

¹⁰⁶³ The Central Public Health and Environmental Engineering Organisation (CPHEEO), web page ‘Status of Urban Water Supply’.

day.¹⁰⁶⁴ However, from my field studies I estimate that most households have to rely on groundwater at least during the summer season, either as the only source of water or to supplement the water provided from the Water Board. The fact that most of the water the Board delivers is pumped from the disputed River Kaveri is another matter to which we will return.

2.2 *The Bangalore Water Board*

2.2.1 Background

The Bangalore Water Board was set up in the early 1960s, when the city was the sixth largest in India with 1.2 million inhabitants. The scarcity situation was problematic and the ‘Cauvery Water Supply Scheme’ was commissioned to come to terms with the situation. To finance the cost of this project, the World Bank was involved. The background to constituting the Water Board is told on one of its web pages:

“Prior to the formation of the Board, the task of providing water supply to the city was with the Bangalore City Corporation in the Cantonment area and [Karnataka Public Works Department] in the city area... The World Bank team which came for first hand appraisal of the project insisted upon the *need for creating an autonomous Board* for handling the Cauvery Water Supply Scheme *on commercial lines* which was accepted by the Government. Accordingly, the Bangalore Water Supply & Sewerage Board was constituted” (emphasis added).¹⁰⁶⁵

The activities of the Board became regulated in the Bangalore Water Supply and Sewerage Act, 1964 (here: the Water Act). The Statement of Objects and Reasons in the Preamble contains the following as to the enacting of the law:

“It will be necessary to change the present distribution system wherever necessary *to suit the proposed* water supply. As the supply of water from the new scheme will be adequate, it will be necessary to improve the present underground drainage system to make use of the water to the maximum extent. It is, therefore, necessary to entrust the administration of water supply and sewerage to the same Authority. The World Bank Authorities who will be financing the Water Supply Scheme *have desired* that the administration of both the Water Supply and Drainage in Bangalore be entrusted to an *independent and autonomous body*” (emphasis added).¹⁰⁶⁶

Keeping the function of water supply divided between the Government and the Corporation of Bangalore was thus not perceived as the ultimate solution by the World Bank, which convinced the Karnataka Government that it was ‘necessary’ to integrate the O&M for the entire city, and with the disposal of sewage through a drainage system.

¹⁰⁶⁴ BDA 2007, p. 15.

¹⁰⁶⁵ Water Board web page ‘Formation of Board’. Cf. the Statement of Objects and Reasons in the preamble to the Water Act.

¹⁰⁶⁶ Statements of Objects and Reasons to the Water Act, 1964.

For comparison, we can look at the Preamble to the Chennai Metropolitan Water Supply and Sewerage Act, 1978. That Act refers ‘particularly’ to “the protection of public health and for all matters connected therewith or incidental thereto” as one of the reasons for setting up the Chennai Water Board. In addition, among the functions listed is

“operating and maintaining the water supply and sewerage services in the Chennai Metropolitan Area to the *best advantage of the inhabitants* of that area” (Sec 5 (d)) (emphasis added).

The concept of ‘public health’ is not at all regulated as a function of the Bangalore Water Board, as scrutiny of the Act reveals. Further, where one inevitably realises that the Bangalore Water Board was instituted on commercial grounds by the World Bank (although on a ‘no loss, no profit’ basis), the Chennai Water Board “shall *endeavour* to be financially self-supporting” (Sec 5(4)) (emphasis added). *Karen Coelho* has described the formation of the Chennai Water Board as “oriented toward global ‘best practice’ principles, with financial viability as the central goal”.¹⁰⁶⁷ Interestingly enough, this process was also shaped and steered by the World Bank. The formulations throughout the Acts regulating the Boards nevertheless show two somewhat different approaches to supplying water.

2.2.2 Responsibilities of the Water Board

According to the division of powers provided for in the Constitution, tasks such as distribution of water, maintenance of capital assets, and collection of water charges and taxes would normally fall to the local self-government, thus the Corporation itself. In Bangalore, these responsibilities are vested with the Water Board. This is semi-autonomous in terms of decision-making: a change in the tariffs, for instance, is ultimately a matter which the Government has to agree on, but full accountability lies with the Board.

The Water Board is “charged with the general duty of providing a supply and improving the existing supply of water in the Bangalore Metropolitan Area”.¹⁰⁶⁸ Steps are to be taken for ascertaining sufficiency and wholesomeness,¹⁰⁶⁹ and preparing and carrying out schemes for domestic purposes. Such schemes are to make provision for supply in pipes to every part of the Area where there are houses and take the pipes to such points as will enable the houses to be connected (Sec 15 (1-2)). These duties cannot be delegated to any other agency, body or party.¹⁰⁷⁰

¹⁰⁶⁷ Coelho, p. 1. Cf. Ramalingam.

¹⁰⁶⁸ The provisions on sewerage and sewage disposal are not dealt with here.

¹⁰⁶⁹ There are at least four different guidelines for what constitutes ‘wholesome’ water: the Indian Council for Medical Research; the Central Public Health and Environmental Engineering Organisation; ISO 10500; and the WHO’s standards for drinking water. Thus for example water which holds over 1300 ppm of salt is not considered wholesome as it tastes very bad and can further not be used in cooking. Even the soaking of staple grains such as rice, pulses, etc., is out of the question when the water is brackish.

¹⁰⁷⁰ In 1998-1999, handing over parts of the management and O&M for certain pilot zones to the

Two main problems are evident in Bangalore's water supply. First, the supply to the Board's consumers is erratic. Secondly, a large part of Bangalore's population is not served. These problems can in turn be explained by a number of factors. In terms of unreliability, the scarcity of raw water is an important restraint, especially since the T.G. Halli reservoir is now yielding an abysmal amount. In addition, the 250-km-long distribution network in the inner parts of the city is some 70 years old and the supply to this area is therefore not satisfactory. Damage to the pipes due to corrosion and poor connections leads to leaks amounting to about 37-39 percent, though possibly closer to 50 percent. Some non-revenue/unaccounted for water is 'lost' due to unauthorised tap connections and to the so-called public standposts (more on which below). The Water Board is required to levy charges to provide revenue *sufficient* for adequate maintenance and depreciation (Sec 16 (1)(a)), and shall create a reserve for such improvement works that the Board have to execute to provide adequate water supply services (Sec 24A). Nonetheless, leakage has remained at an unacceptably high level. This is remarkable when water availability is already circumscribed by competition, the capacity of existing pumps and feeder mains, and the allocation ceiling on water from the Kaveri.

Considering migration, the high daily influx of a floating population (consisting of commuters as well as business people staying in hotels), and the increasing density of the city, the demand for water and for water connections will continue to rise. The problem is compounded by rising standards of living and purchasing power, meaning more households filing applications. New houses and entire residential areas – so-called BDA layouts – are regularly added to the Board's list of responsibilities. Given also that the total amount of water to distribute has recently been augmented and that the Cauvery supply project Stage IV, Phase II is the last extension planned, it seems unlikely that the lpcd will ever reach parity with the Indian norm for a metropolis.¹⁰⁷¹

Those not served by the Water Board are predominantly the slum dwellers lacking *kbata* and mostly also the ability to pay a connection fee, the cost for a meter, and/or the monthly charge. Apart from these, there is a large group of extremely poor whose dwellings are not *pukka* but consist of shelters, or are made of mud,

multinational companies M/s. Suez Lyonnaise des Eaux and M/s. Vivendi Environment was discussed. However, the plans were questioned in 2001 and therefore never materialised. Connors, p. 121, has described how much of this opposition came from Water Board staff: privatisation "would reduce opportunities for 'cream skimming'" among the Board's lower-level engineers who have tasks such as meter-reading among the customers. In other words, the possibilities to demand untraceable 'speed money' risked being heavily circumscribed with a new ownership and management structure.

¹⁰⁷¹ The Water Board initiated Stage IV of its Cauvery water supply scheme in 1995. Improvement of the sewerage system and decreased leakage are parts of the project, the last phase of which is yet to begin after many delays. It is financed with loans and grants from international aid and lending agencies such as the World Bank, the Japan Bank International Corporation (JBIC), the Australian Agency for International Development (AusAID), HUDCO, and others. The JBIC contributes to Phase II of the scheme.

bricks etc. There are also slum areas that are not notified and which stand under a constant threat of demolition. All in all, several million people in Bangalore alone suffer not only from these conditions, but from a piece of legislation unable to recognise them as citizens and therefore potential customers.

Those living outside the borders of the erstwhile Corporation – the core city area – belong to another group of people not enjoying the Water Board’s services. As we will see, the Board regards only a certain part of its actual jurisdiction as its responsibility.

The Water Board is in charge of between 3,000 and 6,246 wells in the city.¹⁰⁷² A study by the Australian Agency for International Development (AusAID) in 2002 concluded that the Board uses groundwater to supply or augment the main reticulated supply. From the records, 3,296 operating bore-wells with hand pumps and 1,159 with electric pumps were identified by a descriptive location. No geographical coordinates were available and no systematic numbering system. Further, there were no records of the amount of water pumped, but estimates were possible on the basis of assumed rates for hand pumps and electric pumps respectively. Information on water quality was available from samples taken at irregular intervals, analysed for a limited number of parameters.¹⁰⁷³

The water pumped from these wells has a contamination problem not properly attended to. At the beginning of 2008, a serious outbreak of cholera and gastroenteritis was reported: many hundreds of people were forced to seek medical treatment, and the problems remained for more than a month in several areas.¹⁰⁷⁴ The mass-media reported that the Water Board “will, *for the first time*, test groundwater from all the 3,000 bore wells across the city for contamination... Dug over the last 20 years by different agencies such as Karnataka Slum Clearance Board and [the Corporation], the responsibility for the maintenance now lies with the [Water Board]” (emphasis added).¹⁰⁷⁵

Consumers’ grievances pertaining to water supply and sewage disposal are regularly redressed in so-called water *adalats* held at the local service stations.¹⁰⁷⁶

2.2.3 Unclear jurisdiction

The Water Board’s jurisdiction is unclear, mainly in the geographical sense, but also in terms of the rights it is empowered to exercise and the obligations, responsibility and accountability incumbent upon it. The Water Act is “an Act to make provision for water supply, sewerage and sewage disposal in Bangalore Metropolitan Area”, according to the Preamble (emphasis added). The definition of this Area should be

¹⁰⁷² Information differs, but the higher number is according to BWSSB, p. 12.

¹⁰⁷³ AusAID, Executive Summary. It was also observed from the statistical analysis of the limited data sets that the pumping rate from an individual borewell was unlikely to be more than about 2.5 litre/second (2000 gph). Cf. Chapter III above.

¹⁰⁷⁴ Anonymous 2008a; Anonymous 2008b.

¹⁰⁷⁵ Anonymous 2008d.

¹⁰⁷⁶ *Adalat* is an Urdu word meaning law court. Here it refers to the hearing of customers’ complaints about bills and the solving of disputes in an informal manner.

the same as that of the Bangalore Development Authority,¹⁰⁷⁷ thus including the core city, the former municipalities and the 110 villages now constituting Greater Bangalore. This means an area of 741 km² and a population of some 6.8 million people.¹⁰⁷⁸

The Water Act nevertheless defines this Area as the Bangalore *Urban District*,¹⁰⁷⁹ which includes Greater Bangalore with its former municipalities and villages, as well as 550 more villages in the four *Taluks* (Sec 2(1)).¹⁰⁸⁰ If we compare this with the Karnataka Urban Water Supply and Drainage Board, its Bangalore division includes the southernmost *Taluk* of the Bangalore urban district, Anekal.¹⁰⁸¹ In other words, it leaves the north, south and east *Taluks* to the Bangalore Water Board. But Anekal is clearly situated within the Metropolitan Area and may hence be under a double jurisdiction, though effectively being supplied by the Drainage Board.

The Water Board's website has, nonetheless, stated for several years that the jurisdiction is the 100 wards of the BMP (the core city of Bangalore), and "newly developed BDA Layouts", but without any further specifications.¹⁰⁸² When asked about these issues, the officials at the Water Board referred to each other.¹⁰⁸³ One person finally held that only the (erstwhile) Corporation area was included – in line with what the web page states. It was apparent that none of the officials saw any problems in there being uncertainties about the spatial extent of its authority. One official added that when a residential area in the (former) municipalities was badly in need of water and asked for assistance, it was usually supplied by means of tankers sent by the Board (the price paid was not revealed). In practice, the Water Board would thus not always insist on the Corporation jurisdiction. As a matter of fact, though, before the extension project described below, it was essentially only the core city that was supplied with water via the Board.

The exact boundaries of the jurisdiction are seemingly not as well defined as required by the rule of law. Without clear geographical limits for the mandate and obligations of the Water Board, the practical possibility for someone located in the outskirts of Greater Bangalore to claim his or her legal rights to water is thereby largely diminished. No court decisions on the Board's geographical extension have been found. Were a court asked to try the question, the discretionary stance of the

¹⁰⁷⁷ BDA web page 'BDA Jurisdiction'.

¹⁰⁷⁸ Cf. Chapter III.

¹⁰⁷⁹ "In this Act, unless the context otherwise requires,-

(1) 'Bangalore Metropolitan Area' means the area of the Bangalore District urban and includes such other areas adjacent thereto as the State Government may by notification from time to time specify" (Sec 2).

Such notifications should have been issued for connecting the 72 wards in the former municipalities under the GBWAS Project (*cf.* below), but have not so far been located.

¹⁰⁸⁰ Greater Bangalore includes one village in Anekal and 46 villages in Bangalore East *Taluk*.

¹⁰⁸¹ KUWSDP web pages 'Jurisdiction'; 'Bangalore division'.

¹⁰⁸² Water Board web page 'Help/Faq'.

¹⁰⁸³ Personal communication, Water Board, engineer. January 8, 2007, Water Board Law Officer. January 13, 2007, Water Board Chairman. January 25, 2007.

Water Board would be struck down, but court proceedings are costly and may take years. There is, however, law both to limit the tasks of the Board and to extend its responsibilities.

2.2.4 Limits to responsibilities and powers

The Board is charged with the general duty of supplying water to Bangalore, and thus far it would seem as if the right to water corresponds to obligations of a responsible body. However, a look at some relevant provisions shows clearly that what should be obligations are, rather, formulated as powers of the Board.

In terms of water supply for domestic consumption, the Water Act stipulates that the Board *may* on application arrange to supply water to the building (Sec 32(1)). In practice – from information on the Board’s web pages – the applicant is required to own or live in a house for which there is a *kbata* issued.¹⁰⁸⁴ Non-*pukka* dwellings do hence not seem to be covered by this provision.

The Water Board is not required to do anything which is not practicable at a ‘reasonable cost’ (Sec 15(3)). Water is supplied to houses otherwise than through pipes only by way of exception. For instance, tanker delivery is conceivable where a danger to health arises from the insufficiency or unwholesomeness of the existing water supply, where public supply is required and where it can be provided at reasonable cost. The State Government takes the ultimate decision on any issues of interpretation.

The extent of the Water Board’s responsibilities was, however, reviewed by the Karnataka High Court in the case *Gowramma v. State of Karnataka*. Justice *Hari Nath Tilhari* first made a point of each and everyone’s constitutional right to water as a right to life under Art 21:

“In this context, we have to read the provisions of the [Water Board] Act. The Legislature has enacted Bangalore Water Supply and Sewerage Act 1964 as its Preamble indicates *to make* provisions for supply for water... The object of the Act has got to be kept in view and the establishment of the Board has also been done *to fulfil that object* to implement the provisions of the Act, so that proper supply of water may be made to the people” (emphasis added).¹⁰⁸⁵

Apart from conferring a power on the Water Board Sec 32 enjoins it to make arrangements for supply of water. An application for a new water connection had therefore been rejected illegally, especially as “there are many ways and means provided under the Act for supply of water”. In other words, it is indicated although not expressly laid down that the word ‘may’ in Sec 32 is to be read as ‘shall’ and that a far-reaching obligation rests with the Board.

It was further held that

¹⁰⁸⁴ The Board requires a ‘tax paid receipt’. The Corporation or BDA must have approved water supply in the area, and further a Road Cutting Endorsement must be issued by the Corporation. The application form as such is charged Rs.30. Water Board web page ‘Procedure/To get connection’.

¹⁰⁸⁵ *Gowramma v. State of Karnataka* ILR 1994 KAR 2649 = 1994(4) Kar L.J. 22, para 8.

“[t]he Authorities such as [the Water Board] is a *public welfare* institution. It is expected that the Officers functioning therein particularly the Chairman of the Board should keep in view that *water is an essential requirement* and amenity. One requires at least unpolluted air and unpolluted water. It is not just and proper on the part of the Authorities to *reject the application for supply* of necessities particularly the Authorities who have been *empowered to grant* permission or to make supply of those necessities such as water”.¹⁰⁸⁶

The judge’s order refers to the owner of a house with a proper *kbata*, located within the core city. No hard questions came up for interpretation as the issue was solved within the framework of the Water Act. However, it was laid down that the Act is to be read in the context of Art 21 and the right to life was emphasised a number of times. The object of the Act and of the Board is to provide water to the people.

Reading the Water Act against the history of its enactment, it may seem permeated with financial tones rather than an intention to provide for a supply of good-quality water in a sustainable manner to everyone in Bangalore. The legislator (read the World Bank) had one clear idea, this being to constitute the Board as a unified institution for the costly Cauvery supply project. The Act, it could be said, was predominantly written as a piece of legislation to regulate the Board’s operations and the powers it needed to possess – not the water users’ need for and right to potable water, nor the ensuing obligations on the Board to provide this or remedies for non-performance.

Nonetheless, Justice Tilhari’s inclusive approach to the *Gowramma* case, applying the Water Act in conjunction with the precedents on the human right to water under Art 21, stands as the authoritative interpretation of the intention and object behind the applicable provisions.

2.3 Financing the water supply

2.3.1 Tariffs

As mentioned, the Water Board operates on a ‘no profit, no loss’ basis,¹⁰⁸⁷ and is financed through water revenues only. The Water Act stipulates that for all water supplied, payment shall be made (Sec 31). For the purpose of carrying on its operations, the Board shall levy rates, fees, rentals and other charges and shall also be entitled to vary them. The tariffs are to be set so as to provide sufficient revenue

- to cover operating expenses, taxes and interest payments and to provide for adequate maintenance and depreciation;
- to meet repayments of loans and other borrowings;
- to finance normal year-to-year improvements; and

¹⁰⁸⁶ *Ibid.*, para 12.

¹⁰⁸⁷ “No part of the revenues of the Board, *after meeting the expenses* referred to in clauses (a), (b) and (c) of sub-section (1) shall be used to *augment the reserves* of the Board other than the reserves referred to in sections 24 and 24-A or for the general purposes of the Board including expenses in connection with capital works, other than improvement works” (Sec 16).

- to provide for such other purposes beneficial to the promotion of water supply and disposal of sewerage in the Metro Area as the Board may determine (Sec 16).

The level of the tariffs is set by the State Government. Prior to 2005, only two domestic slabs existed, where the lower was charged Rs.115 per month for any consumption between 0 and 15,000 litres. The adjustment, with its substantially decreased price for the lowest slab, was meant to help slum-dwellers get individual connections and stop using public taps because the Board wanted to shut these off (*cf.* next sub-section). As from February 2005, the following applies:

Table 5. Water Board tariffs.

Consumption Slab, litres	Tariff per kilolitre, Rs.	Minimum Charge, Rs.
0 – 8,000	6.00	48.00
8,001 – 25,000	9.00	201.00
25,001 – 50,000	15.00	676.00
50,001 – 75,000	30.00	1,326.00
75,001 – 100,000	36.00	2,226.00
100,000 and above	36.00	5,826.00
Sanitary charges for domestic connection	(i) Rs.15 at flat rate for consumption of 0 – 25,000 litres. (ii) 25,001 – 50,000 litres: 15% on water supply charges per month. (iii) 20% of water supply charges per month for consumption of above 50,000 litres.	

From Water Board web page 'Water tariff and prorata'.

As can be seen, the Water Board applies a volumetric-consumption-based charge instead of a flat-rate tariff.¹⁰⁸⁸ Premises with a well, which do not take water from the Board but is connected to the underground sewerage and drainage network ('UGD connection') pay Rs.300 monthly in addition to the sanitary charges.

In other words, for what is considered a basic monthly need of up to 8 kilolitres per household, the tariff is very low, and then the price progressively rises. Being metered, the size of the consumption is both transparent and kept under control. Nevertheless, the slabs mean that a household consuming for instance 15,000 litres in a month will pay Rs.111 (8x6+7x9), but will anyhow be billed Rs.201, the minimum charge. The pricing incentive to reduce water consumption within the slab is therefore negative. On the other hand, the comparatively low price allows for the better-off among the poor to pay for the Board's services.¹⁰⁸⁹

The non-domestic tariff starts at Rs.36 per kilolitre, whereas the industrial tariff is a flat Rs.60 per kilolitre. There is a sewage cess on top of these tariffs, making it

¹⁰⁸⁸ *Cf.* Vishwanath 2007, blog: 'Deconstructing water tariff'.

¹⁰⁸⁹ That is, were they only to pay for the water supplied, not connection and meter charges, etc.

high compared with other Indian cities, and substantially higher than what is paid for a tanker of groundwater (between Rs.80-300 for 7 kilolitres depending on season and location). A private provider rather than the Water Board thus becomes the economically rational option for all non-domestic users.

The factual cost of pumping, treating, delivering, etc. the water throughout Bangalore is higher than what is charged from domestic consumers. The cost is largely because of the very high electricity costs for pumping the water from Kaveri 100 km up a steep gradient. The production cost has been estimated to Rs.23.13 a kilolitre or even Rs.34.25 a kilolitre if the leakage factor is considered.¹⁰⁹⁰ The domestic sector is the Board's major consumer group, not (only) because of the high tariffs for non-domestic users but because Bangalore is a post-industrial city where service providers (IT and call centres) dominate the non-domestic demand. The aim, if any, of attaining cross-subsidisation by making non-domestic users pay a much higher tariff is thereby not likely to be reached.

In the manual on the human right to water, mentioned in Chapter V, COHRE *et al.* analyse in detail different tariff design options. A *flat rate* does not alter with consumption and therefore does not require a meter. This makes the flat rate simple to administer, but it also tends to reduce affordability for low-volume consumers. However, it does not encourage 'sustainable use'. In comparison, volumetric consumption or '*increasing block tariffs*' (IBT) means that the price per block (slab) increases as consumption increases. The lowest block is typically charged below the actual cost of producing and delivering the water, and successive amounts are priced at increasingly higher per-unit rates. This can allow for cross-subsidisation, as it makes low-volume, essential ('basic need') uses more affordable – at the expense of high-volume users. The progressively increasing price can also function as an incentive to encourage water conservation, thereby reducing both average and peak demand. It is therefore to be preferred from a sustainability point of view.¹⁰⁹¹ COHRE *et al.* however stress that the

“[s]uccess of the IBT depends upon the accurate sizing of the initial subsidised blocks. If the quantity is too generous, too wide a segment of the population will benefit from the cheaper water, and many people who could afford to pay at least cost price will receive water at a lower rate”.¹⁰⁹²

Unfortunately, this describes the situation in Bangalore: the middle and upper income groups are the main beneficiaries of the subsidised water tariff – “nearly all of whom can afford to pay the true cost of water”, as *S. Vishwanath* concludes.¹⁰⁹³ There is also no incentive to be conservative with the water within the slabs – 9,000 and 25,000 litres being charged the same amount, etc. The result of the tariff being lower than the production cost is that “[t]he more domestic connections the

¹⁰⁹⁰ G.S. Sastry, Institute for Social and Economic Change, quoted in Vishwanath 2006.

¹⁰⁹¹ COHRE *et al.*, pp. 136f.

¹⁰⁹² *Ibid.*, p. 137.

¹⁰⁹³ Vishwanath 2006.

BWSSB gives out, the more it stands to lose monetarily”.¹⁰⁹⁴ This is the effect at least until a household consumes more than 50,001 litres monthly and pays Rs.30 per kilolitre for what exceeds this limit.

Conversely, COHRE *et al.* continue,

“care needs to be taken to ensure that poor households that may share a single connection or larger households have sufficient water and are not pushed into the next price bracket”.¹⁰⁹⁵

A disadvantage of this system is thus that it “creates a strong incentive for utilities to prioritise provision of service high-volume users, who are normally upper-income groups, as this allows utilities to charge more per litre used”. However, COHRE *et al.* add, “clear service delivery targets can mitigate this disadvantage”.¹⁰⁹⁶ Doubtless, such a target provision is fundamental. In the case of Bangalore, the object of the Water Act is too vaguely formulated even when read with Art 21 of the Constitution. A new provision would be needed in this regard. And the Board together with the Government needs to introduce more slabs with a higher price introduced for consumption of water over, say 6 kilolitres (as in South Africa) and/or 10 kilolitres monthly. This higher tariff is not only to meet the actual production cost, but must to an increasing extent also function as an incentive for more savvy (i.e., reduced) consumption of water.

Hiked tariffs were announced before the summer of 2008, with a raised ceiling of the lower slab. A Board Engineer laid out the broad lines of the new price system:

“Revision will be done scientifically. A study of water consumption pattern is over. Water consumption slabs will be revised based on the consumption pattern. The initial slab is likely to be between zero and 10,000 litres”.¹⁰⁹⁷

The Board can thereby be expected to stop providing the first 8,000 litres at the present, comparatively affordable price. It remains to be seen how the basic needs of Bangalore’s poor sections are met given their capacity to pay.

2.3.2 Public standposts ousted

Public water standposts are a common sight in the urban environment of most developing and newly-industrialised countries. They are typically geared towards citizens not connected to the public distribution network or with access to a well of their own – in other words, slum dwellers not living in *pukka* houses. The standposts can be seen as group connections to the distribution network, and are of the greatest importance to ensure water as a human right.

¹⁰⁹⁴ *Ibid.*

¹⁰⁹⁵ COHRE *et al.*, p. 137.

¹⁰⁹⁶ *Ibid.*

¹⁰⁹⁷ A revision proposal was sent to the government for approval in March, 2008. Anonymous, 2008f.

In 1999, a study team located over 23,000 standposts in Bangalore.¹⁰⁹⁸ Three quarters of them were standpipes and the rest bore-wells and hand-pumps. Each public standpost served 20-30 households. The majority were observed in residential areas of urban poor, and only some 4,300 were located in notified slums. From the survey it was concluded that 80 percent of the total number of standposts were working, of which 31 percent yielded water daily and 65 percent on alternate days only. The major problem as expressed by the users was the irregular timing of the water supply, and the quantity itself.

Of fifty water-quality samples, 34 were declared unsatisfactory due to the presence of coliform, e-coli bacteria and a high level of turbidity. Leakages occurred at up to 40 percent of the standposts. Notwithstanding these and other problems, almost 80 percent of the respondents showed satisfaction with the quality of the water.¹⁰⁹⁹

The Water Board recognised some 7,000 standposts and public taps as legally connected – with its express permission – but there were also some 8,000 illegally connected ones not billed for. Some 6,000 have been disconnected or plugged.¹¹⁰⁰ Standposts are important bait for politicians who need slum dwellers as a vote bank, for which reason a disconnected tap or standpost is often opened (only) after pressure exerted by politicians.

‘Whose’ are the standposts, then? Connors writes that when the responsibility for water supply was transferred to the Water Board in the early 1960s, the Board

“*assumed* the task of distributing water for public consumption through a network of free, public taps. The [Water Board] was not, however, responsible for meeting the costs of this service” (emphasis added).¹¹⁰¹

The responsibility for paying the costs lies instead with the Corporation. Sec 38 (1) of the Water Act states that the Board

“*may, subject to the payment* by the Corporation of such charges as the Board may determine, provide gratuitous supply of wholesome water to the public within the City of Bangalore” (emphasis added).

The provision applies, for unknown reasons, only to the City rather than the Metropolitan Area as the rest of the Act does.¹¹⁰² The term ‘may’ indicates that it is left to the discretion of the Board to decide whether it will provide the public with water accordingly.

The Board’s charge for this gratuitous water supply was, according to Connors, “determined through joint gauging of the water flow undertaken by the [Water

¹⁰⁹⁸ ORG-MARG Survey, summarised in the TCE Final Report.

¹⁰⁹⁹ *Ibid.*

¹¹⁰⁰ Connors 2007, p. 135.

¹¹⁰¹ *Ibid.*, p. 134.

¹¹⁰² The Water Act defines ‘city of Bangalore’ according to an Act which was repealed in 1977, (no consequent amendment made). The term should now refer to the area under the Corporation, thus only somewhat smaller than the Metropolitan Area after Greater Bangalore came into force. The intention may have been to provide for standposts in urban areas, but not in villages.

Board] and the Corporation every few years. The last gauging exercise took place in 1997 when engineers estimated that the average public tap supplied 22,000 litres of water per day, billed at a cost of Rs.3,000 per tap per month”.¹¹⁰³ Considering that the production cost was then estimated to Rs.16 per kilolitre, this was a heavily subsidised price. However, from some point in time the Corporation no longer paid the bill for the water supplied and the O&M of the standposts, and arrears accumulated. During 2002, the Corporation passed a Resolution with the effect of cutting funding for public taps, as it did no longer agree to pay the charges. In 2005, the debt to the Board amounted to Rs.160.75 *crores* (Rs.1.6 billion).¹¹⁰⁴ Connors refers to a letter sent from the Corporation to the Urban Development Department, asking the Board “to at least provide water through street taps to the public and that the cost of the same should be borne by the Water Board”.¹¹⁰⁵

In practice, the Board is doing just this in many cases – continuing its supply via taps. Nevertheless, this is not compatible with the requirement that for all water supplied, payment shall be made (Sec 31). Provision of water for free would be a great burden for which the Water Act and thereby the Board’s financial capacity were not designed. A drive to progressively close down the public taps began, regardless of the many protests.

Did the Corporation violate the unconnected Bangaloreans’ human right to water by its lack of willingness to pay? The answer must be ‘yes’. In *Gowramma*, it was established that the Water Act was enacted and the Water Board constituted with the intention of providing water for the people. The Board is therefore the actor empowered to supply water, to the exclusion of the Corporation or any other actor within its jurisdiction. However, the Board’s free supply of water to the public is conditioned in Sec 38(1) by the Corporation reimbursing the cost. ‘May’ in the provision cannot be interpreted as ‘shall’ with less than this payment being made, considering also the clear provision in Sec 31. The Board is thus not obliged to provide water gratuitously, and the poor have no right to claim water from the Board via public standposts. The claim must fall back on the Corporation, being the state’s local body in the three-tier structure of self-government. The financial means will be public funds, meaning that the Corporation may just as well transfer such money to the Water Board as is stipulated under Sec 38.

The situation is nothing less than a clash between the intentions behind the Water Act and the Board’s existence in conjunction with Art 21 of the Constitution, and the wording of Sec 31 and 38. The Water Board has doubtless a *duty* as well as the power conferred to the Water Board to arrange for a supply of water, and this duty is connected to everyone’s right to life, but only for a fee. An amendment to

¹¹⁰³ Connors 2007, p. 134. There are reasons to doubt that the figure stating 22,000 litres is accurate, if compared with AusAID’s (2002e) Overview Report on Services to the Urban Poor.

¹¹⁰⁴ *Ibid*, p. 135; Sreedharan; Personal communication, Water Board Social Development Unit officer. January 8, 2007.

¹¹⁰⁵ Connors, p. 134, with reference to letter No. MD:PR:8:2002-03, dated May 15.

the Water Act, though, would enable the Board to cross-subsidise the cost of the water to those unable to pay within its own financial budget.

What does it then mean to the Board that it is declared ‘a public welfare institution’? Clearly, its approach is that the poor have to and want to pay for their water consumption. On its web page ‘Services to urban poor’, the Board states that

“[i]t is the *moral, social and economic obligation* of BWSSB to provide drinking water to *every citizen* in the metropolitan area of Bangalore... *Public taps are not an option*. The poor, after having been through *the drudgery* of collecting water from public taps *are happy* in the encouraging atmosphere created for availing individual household connections. *The culture of user charges is very well accepted*. The results of the Willingness to Pay survey conducted under the Master Plan Project indicate that the poor are willing to pay for improved services and this has been borne out during the course of our work” (emphasis added).¹¹⁰⁶

This approach is apparently endorsed also by the Board’s Legal Officer, who sees his role as the representative of the Board in the courtroom. When asked for the present study about his interpretation of Sec 38, the Officer first excused himself by saying that he had only had the position for some eight to ten months. It then became clear that there are certain provisions in the Act which he had never looked into, and he therefore lacked any conception as to how they may be understood. In Sec 38 in his printed version of the Act, I saw the word ‘gratuitously’ crossed out – ‘by the person who had this position before me’, he explained, and interpreted it as that no rule on free public water supply exists.¹¹⁰⁷

Furthermore, the Legal Officer was not aware of the content of, or the established interpretation of, Art 21 of the Constitution, and had hence never reflected upon what a ‘right to water’ would mean for an institution such as the Water Board. To the best of his knowledge, there was no relevant case law decided in the courts (the *Gowramma* case was, for instance, unheard of). From his perspective, the objective of the Water Board is to provide wholesome water to consumers who pay according to a tariff for this service, and Water Board water is consequently only for those who have the ability to cover the costs of connections etc. to their houses.¹¹⁰⁸

With such an approach to rights, obligations and issues of access to water, the poor are referred to other strategies for coping with their needs.

2.3.3 Connecting the urban slums

As analysed by Connors, “external actors made a series of decisions which jolted the [Water Board] out of its longstanding complacency towards the poor, obliging it for the first time to consider the provision of household connections in

¹¹⁰⁶ Water Board web page ‘Services to urban poor’. The ‘Master Plan Project’ mentioned here refers to the AusAID study and pilot, described next.

¹¹⁰⁷ Personal communication, Water Board Legal Officer. January 13, 2007.

¹¹⁰⁸ *Ibid.*

slums”.¹¹⁰⁹ One such jolt consisted of a foreign donor, AusAID, wanting to implement a Water Supply and Environmental Sanitation Masterplan Project in Bangalore. “The urban poor and disadvantaged groups have previously been overlooked in the delivery of these basic services”, AusAID noted. “A strategy will be developed to [liaise] with these groups and to provide project assistance in a holistic, demand driven way that still recognizes the commercial requirements of the [Board]”.¹¹¹⁰ During 2000-2002, among a number of other steps taken within the Masterplan Project as a whole, three representative slums were therefore selected as pilot areas to enable the Board to plan and implement innovative options for delivery of services to the urban poor.¹¹¹¹ The aim was that the Social Development Unit, instituted for the cause, would mainstream the lessons learnt from the Project into the Board.¹¹¹²

Of key interest here is the concept of willingness to pay (WTP) and the fact that such willingness has been assumed to exist whether or not various investigations show this convincingly.¹¹¹³ According to the survey mentioned, commissioned by AusAID, up to four of five respondents showed a willingness to pay something for distinct improvements in the water supply compared to the existing situation. However, it was found that “low income households in slum areas are not willing to pay much more than 1% of household income”, which was equivalent to monthly payments between Rs.16 and Rs.29 per household. The ‘policy implications’ concluded from these results were that

“[t]he WTP levels indicated in the survey are most likely *underestimates of actual* WTP for improved service, because of the poor water supply situation that has prevailed in Bangalore for some time and the apparent low level of credibility of the BWSSB as a service provider. There is evidence elsewhere in India that *if* tariffs are set based on real costs of service provision, *if* consumers are confident that they are being charged a realistic price and *if* there are perceptible increases in service levels and reliability, *then* consumers *will* recognise the value of the service provided *and will respond positively to tariff increases* to obtain the required levels of service” (emphasis added).¹¹¹⁴

¹¹⁰⁹ Connors 2007, p. 117.

¹¹¹⁰ AusAID 2002f.

¹¹¹¹ *Ibid.*; Connors 2005, 2007; Water Board web page ‘Services in urban poor’; ADB/Tigno.

¹¹¹² *Cf.* Connors, pp. 146ff.

¹¹¹³ It lies outside the aim of this study to discuss the concept and the methods of calculating it as such.

¹¹¹⁴ AusAID 2002c. The survey questions are not revealed in the available summary. It only states that “[r]espondents were presented with scenarios that represented distinct improvements over the existing situation and were asked how much they were willing to pay for these improvements”, *ibid.* The results from the low-income households’ WTP for water from four different options of supply (the figure in brackets is the percentage of households that were willing to pay for this option):

- from water tanker: 1.1% of household income (81%)
- by shared connection:
 - own house 0.9% of household income (82%)

Thus, although the survey result on the one hand ‘indicates’ an almost negligible willingness in the sense that the amounts to be paid were significantly lower than the then lowest tariffs for domestic use,¹¹¹⁵ the conclusion was that if only consumers’ perceptions were changed, then they would respond positively. And this perception would change if only ‘consumers are confident’ that they are charged a ‘realistic price’ based on ‘real costs’ and that there is a noticeable increase in service level. What is seemingly missing in the discussion is the *ability* to pay, given income levels, purchasing power, minimum wages, and the fact that many extremely poor people are leading a hand-to-mouth existence but still depend on access to safe drinking water.¹¹¹⁶ The quoted conclusion therefore seems to me to be the greatest cynicism.

Salma Sadikba, who functioned as the sole official at the Board’s Social Development ‘Unit’, took a more pragmatic stand based on empirical experience when saying that poor people’s willingness to pay

“does not always translate into *actual payment* because their *eagerness to access* water often prompts the poor to readily accept the terms. After a point, they realize that they cannot afford the amount being charged” (emphasis added).¹¹¹⁷

One can ask whether the insights and experience from the AusAID project have led to any more permanent changes within the Board, to the benefit of the unserved. On its web page the Board’s attitude is unmistakable:

“These *slums* are *posing a major challenge to sustainable water supply and sanitation* system in the city. Inadequate or poor services to urban poor has adverse impact on both BWSSB and the general community -

- Unauthorised / illegal tap connections, which lead to loss of revenue;
- Damage the water supply system, as poorly made connections lead to leaks and contamination of water;
- Run-off of Sewage in open places, sewage discharged directly into storm-water drains, all of which lead to serious public health concerns, pose environmental hazards and portray a *poor public image of the Board*” (*sic*, emphasis added).¹¹¹⁸

From the wordings used it can be questioned whether the Board is interested in actually offering ‘services to the urban poor’, or if the cited information is addressed

- other’s house 0.8% of household income (82%)

· bulk metering: 0.7% of household income (63%).

¹¹¹⁵ The Board charged Rs.115 for up to 15 kilolitres at the time. *Cf.* Connors 2005, p. 208.

¹¹¹⁶ Maybe the approach to the respondents, the surveyors, or the questions were wrong. In AusAID’s Baseline household socio-economic survey a need for clean water was most commonly articulated, but “[l]ower income households expressed a greater need for improved supply duration, perhaps on account of the fact that they lack facilities for in-house storage that are common among the richer households”, AusAID 2002a, pp. 65f.

¹¹¹⁷ ADB/Dueñas.

¹¹¹⁸ Water Board web page ‘Services in urban poor’. *Cf.* Connors’ study (2007) on organisational lessons learnt within the Water Board.

to customers who have slum dwellers as neighbours; more like a message that the Board has a plan for dealing with this challenge. The formulation gives an impression of the Board making a clear distinction between paying customers and those who are not, without reflection over its own role and mandate (the duty and the power, as held in *Gowramma*), which is to provide water to all within its jurisdiction, and remain a ‘public welfare institution’.

Nonetheless, the signals the Board gives are double. As a result of the AusAID project and the installation of the Social Development Unit, the Board promoted a water reform package available to residents in 25 selected slums over the following five years. The Water Board thus extended its services so that

- connection fees were reduced: a house with an area of 150 square feet (14m²) paid Rs.550 (the meter cost); up to 600 square feet paid Rs.800 (meter cost of Rs.550 + cost of underground connection at Rs.250). Houses above 600 square feet were charged the regular rate (Rs.1,850);
- the connection fee could be paid in two instalments;
- any proof of residence, such as a *bakku patra* (land grant) issued by the BDA, the Corporation or the Slum Clearance Board; a ration card; voter’s ID; or ID issued by the Slum Clearance Board was accepted instead of the *khata*;¹¹¹⁹
- the application procedure was simplified.

The service levels being offered to the different categories of slums were

- a) individual household connections for those *with land tenure* and having adequate space;
- b) community-level services such as *shared metered* connections on payment for those communities having land tenure but not adequate space and communities without security of tenure” (emphasis added).¹¹²⁰

As noted above, the introduction of a new slab for the first 8,000 litres charged only at Rs.48 per month was a major part of the reform. It does not seem that the above package was ever made applicable in other slums than the chosen ones. The Board is also criticised for not having carried out any assessment of the package reform. The Board explained that no replacement had been ‘found’ after Sadikha’s transfer to another Government department early in 2007.¹¹²¹ By transferring the

¹¹¹⁹ NGOs engaged in slum area development have long experience of what the recognition of alternative proofs of residence means to people who have lived in an area for decades. Personal communication, APSA representative. January 25, 2007.

¹¹²⁰ Water Board web page ‘Services in urban poor’. The first option refers to those notified slums which have been upgraded and developed into *pukka* or semi-*pukka* houses by the Slum Board. Even without ‘adequate space’ for a water connection, taps, and a meter in the individual house, a community can thus apply for a shared connection. In practice, this solution is seldom opted for, according to Sadhika: a slum area does not consist of a homogeneous group of people with the same needs, wants, and purchasing power. It is not easy to agree on the terms of sharing. Personal communication, Water Board Social Development Unit officer. January 8, 2007.

¹¹²¹ Shivanand 2008. Being an IAS officer (employed within the elite Indian Administrative Services, with an important role in influencing and implementing government policies and deci-

only working officer from the Social Development Unit, it was in effect closed down and so were the possibilities for Bangalore's slum dwellers to access water via proper connections.

From mass-media reporting, it also seems that the projects never fully succeeded in providing drinking water. When the Water Board connected direct lines to each house, the public taps were simultaneously removed. Now, many residents are forced to walk a couple of kilometres to access potable water: "We got water regularly for six months when it was launched in 2003. And then it stopped. Now we have only the pipes, but no water", one slum resident is quoted as saying.¹¹²²

2.4 Connecting the peri-urban

2.4.1 The Greater Bangalore Water and Sanitation Project

As related in Chapter III, Bangalore is growing not only in terms of people moving into the city, but the city's administrative borders have expanded to comprise a much larger area. History shows that this has been a continuous process of steady outgrowth, but no previous step was ever comparable with the recent decision to incorporate some 500 km² of municipalities and villages in one move. Almost parallel with the incorporation of eight municipalities and 110 villages into the city of Bangalore, a project aiming to supply much of this area with water from the River Kaveri was gradually implemented. However, the Greater Bangalore Water and Sanitation Project (GBWASP, hereunder: 'the Project') was initiated to enhance the level of water supply and sewerage service in the eight municipalities, before the merger was properly on the agenda, and the two processes were not formally linked. Some aspects of the Project exhibit clear linkages to the human right to water, in particular concerning the pricing of water services.

The main objectives of the Project, as formulated at the outset, were to

- provide Kaveri water to the municipalities – amounting to 120 lpcd;
- reform the urban local bodies (ULBs) and ensure financial discipline;
- introduce privatisation of the O&M; and
- provide an underground drainage system and sewage treatment plants.¹¹²³

The Project aimed not only at supplying water and sanitation to the growing population and commercial interests of the municipalities, but also at reforming them by ensuring financial discipline, and introducing privatisation of the O&M at a later stage.¹¹²⁴ A representative of the World Bank's Water and Sanitation Program was involved in this work by drafting the Terms of Reference for consultants.

sions), Sadikha was not expected to stay at any certain position for a prolonged period, but wanted to in order to finish the tasks she had begun. Personal communication. January 22, 2007.

¹¹²² Shivanand 2008.

¹¹²³ According to the first Notification, G.O. No. UDD 27 MNI 2000 BANGALORE, dated December 26, 2003.

¹¹²⁴ GO No. UDD 27 MNI 2000 Bangalore, dated December 26, 2003.

The Government of Karnataka planned that the entire sewerage system project was to be financed by borrowings from an external agency, the World Bank. For this component only, and at the express request of the Bank, an Environmental Impact Assessment was carried out. However, commencement of the drainage system was from the very beginning planned for a later stage and eventually came to be decoupled from the implementation of the water supply. Water was thus supplied, but the sewage disposal was not catered for.

Though consultants were involved earlier, the project was formally launched only at the end of 2003 and, despite many promises during the process, four years later water was being delivered only in pockets.¹¹²⁵ This was unfortunate for the inhabitants of the areas during the long delay as the ULBs, although still responsible for the water supply until Greater Bangalore was a fact in January 2007, neither maintained their groundwater structures nor the pipes, taps, standposts, etc. As a result, most residents in the municipalities were left to their own coping strategies to access freshwater. The groundwater tables dropping to precariously low levels and large areas being deemed ‘overexploited’, the ULBs could, anyhow, not have effected the permissions issued by the Karnataka State Pollution Control Board and the Central Groundwater Authority to drill new tubewells.

For the poor, this was a particularly tough time. The slum dwellers, most of whom live under conditions of such extreme poverty that they cannot afford to boil their water, seldom had access to potable water even for drinking. At the end of 2006, the authorities – knowing that they would not be accountable once Greater Bangalore was created – did little or nothing to mitigate the scarcity. They referred to the Water Board, and everyone repeated the mantra: ‘Kaveri water is coming soon’.¹¹²⁶

The data on population and properties initially used for planning the GBWAS Project were not accurate, with the result that the demand projections were severely underestimated. For instance, census figures from 1991 were used even after census 2001 was published. Connection of 120,000 households was thus planned for. But the estimations already became outdated during the early planning stage, due to the rapid growth of these areas. A new study revealed that around 40 percent of the municipalities’ area had not been covered by the plans. More than double the amount of properties – and even several newly-created wards – needed connection. In addition, large proportions of the ‘green belt area’ that was to remain undeveloped had in fact been encroached upon and the Government made it clear that these areas were also to be included in the project.¹¹²⁷ An additional estimate was prepared and re-tendered to cover in total some 200,000 connections. However,

¹¹²⁵ Even at the end of January 2008, water was not supplied and a chairperson of the Water Board stated that at the year’s end, the concerned 72 wards were set to receive Kaveri water, Lalitha.

¹¹²⁶ Personal communication, Yelahanka Municipality Corporator; Inhabitants of Yelahanka Old Slum. November 29, 2006.

¹¹²⁷ Personal communication, Water Board engineer. January 8, 2007.

later estimations put the figure closer to 500,000 properties.¹¹²⁸ These faulty foundations for the Project contributed to delaying it, not to mention the completely different price tag of the demand for water supply.

2.4.2 Users' participation and capital contribution

In a large project, aiming to connect many million people to a central water supply network, the question of end-user participation would seem fundamental. The Project did not, however, provide for any public participation or citizens' involvement. A 'help-desk' was eventually set up after criticism had become louder, and was funded by USAID. A document with answers to Frequently Asked Questions was also distributed.¹¹²⁹ Certain actors put pressure on the Water Board and the other authorities involved to make room for representation. Three main actors can be identified as having been involved during parts of the process: the Janaagraha NGO, the Water and Sanitation for the Urban Poor partnership, and the Campaign Against Water Privatisation. They had different approaches to the Project and its various components, and were likewise met with different attitudes by agencies, other organisations, and the mass-media.¹¹³⁰

Janaagraha had the intention to bring in a component of citizen participation to the project, in a 'formal, institutionalised manner'.¹¹³¹ It described itself as a platform using information dissemination to encourage users to pay the BCC (*cf.* below). The greatest concern, it was perceived, related to an information vacuum that needed to be filled. Several letters were sent to the Steering Committee and representatives of Janaagraha met with the Urban Development Department. Nevertheless, it seems from proceedings and minutes that the NGO and its work were largely ignored by the Project Steering Committee in charge. Janaagraha disengaged from the Project in February 2006, openly communicating that it was discontented with the failure to involve citizens.¹¹³² The Water and Sanitation for the Urban Poor partnership never gained the footing it wished for, partly because the Campaign Against Water Privatisation counteracted all its efforts.¹¹³³

Of the cost for the water supply section of the Project, much was to be raised through loans. A smaller part was to be given as grants by the State Government, and 20 percent would be raised via collection from the users. This capital contribution approach was a novelty from the onset, and meant that all 'beneficiaries' – the

¹¹²⁸ *Ibid.*

¹¹²⁹ Nowadays there is also a nice web page of the KUIDFC on 'GBWASP'.

¹¹³⁰ A very brief account is given here only, because many others have described, analysed, and criticised – or are conducting PhD studies on – the events and actors involved.

¹¹³¹ Janaagraha web page 'Past programmes...'; Memorandum of Understanding signed in March 2004.

¹¹³² Many held that Janaagraha's role was to ensure that the process of privatising the water supply took place smoothly, and that the criticism of it from other NGOs in the water field was the reason for Janaagraha to opt out of the co-operation. Personal communication with Convenor of the Campaign Against Water Privatisation. December 30, 2006.

¹¹³³ *Ibid.*

water users – were to pay a once-off lump sum to cover part of the costs of laying the distribution network. The Government therefore introduced the concept of Beneficiary Capital Contribution (BCC).¹¹³⁴ On top of the BCC, however, there would be additional charges to cover the Water Board’s costs for access and connection, as well as the costs for road cutting etc.

In a Government Order of 2003, the BCC was set at Rs.8,500 per domestic household. However, feedback from citizens in the municipalities, recommendations drawn from a ‘willingness to pay’ study, and suggestions from representatives of the municipalities, etc., came to change this. Following discussions on the situation, a slab system with differentiated BCCs for various categories of user was introduced instead, according to which smaller properties should pay less.¹¹³⁵ The Government eventually issued a new Order, quashing the previous one, to effectuate this decision. The lowest BCC was consequently set for sites measuring up to 40x60 square feet and flats up to 1,200 square feet, for which Rs.10,000 was charged. If payment was made after July 31, 2004, this amount was raised to Rs.15,000.¹¹³⁶

Interestingly enough, the lowest slab was thus increased from Rs.8,500 to 10,000 for the smallest size of household. Further, future beneficiaries were expected to make their payments long before any signs of an actual water distribution network were visible (delivery only started towards the end of 2007).

By mid-2004, very few BCC payments had been made and some municipality Commissioners observed that “the poorer households were not coming forward to pay”.¹¹³⁷ The Project Committee was of the view that the differentiated slabs had been created to accommodate to the poorer households, and that ‘field studies’ indicated that they were willing to pay for services. The Committee also noted that ‘many of the poorer households *had capacity* to pay as they also could spend on *cable TV*’ (emphasis added).¹¹³⁸ It was understood at this point that a very large number of households fell within the two lower slabs, and that this might also mean a substantial drop in the potential for collection of the BCC.

Early in 2005, it was recognised that many financially weak households were living in sites smaller than previously assumed, and a new Government Order was decided. This time, sites measuring up to 600 square feet were only to be charged Rs.2,500. In the highest slab (2,400 square feet), the BCC was set at Rs.15,000.¹¹³⁹ These charges still obtain. The deadline for paying was moved to July 31, 2005. If the BCC had not been paid by then, additional penalties (calculated from August

¹¹³⁴ GO No. UDD 27 MNI 2000 Bangalore, dated December 26, 2003.

¹¹³⁵ Proceedings from meeting of the Steering Committee, dated January 28, 2004.

¹¹³⁶ GO No. UDD 336 MNI 2004 Bangalore, dated February 13, 2004.

¹¹³⁷ Proceedings from meeting of the Steering Committee, dated May 21, 2004.

¹¹³⁸ *Ibid.* It is noticeable that the language is below par in this part of the Proceedings. This may indicate that there was no consistent view on the question and that there had been several reformulations before the participants to the discussion were satisfied.

¹¹³⁹ GO No. UDD 145 MNI 2004 Bangalore, dated February 28, 2005.

2005 to December 2007) of at least Rs.2,700 had to be paid before the Water Board made the individual connection.¹¹⁴⁰

Early in 2004, the Steering Committee noted that the Water Board had so far taken up schemes to benefit the poor – e.g. as a result of studies conducted by the JBIC and AusAID – but in a piece-meal manner. Studies and projects initiated by foreign donors such as Australia and Japan had, nevertheless, put the poor in focus. A sub-committee was therefore set up to handle issues connected with the urban poor, including representatives of the Water Board and USAID. The group was expected to formulate a coherent policy for water supply and sanitation strategies. Though no formal policy has so far been adopted, the group's mere existence was probably enough for important steps to be taken in relation to the BCC.

Early in 2008, the Water Board decided that all the 250 wards recently added to Greater Bangalore were to be included.¹¹⁴¹ The 110 villages, rapidly becoming more peri-urban, were still not included under the Project, though. Since January 2007, it has in practice been the Corporation that is in charge of the public bore-wells instead of the erstwhile *Panchayats*. Many villagers who are suffering from rapidly depleting groundwater levels, salty water, etc. are beginning to raise their demands for Kaveri water. They are clearly entitled to make claims considering that they are located within the Water Board's jurisdiction and (most) have their *khatas* in order.

The creation of Greater Bangalore in fact meant considerable re-centralisation in the villages: overnight, the local, self-governance bodies had to hand over to one of India's largest corporations. The *Gram Panchayats* that were in charge of and accountable for water supply, subject to recommendations from the villagers of the *Gram Sabha* meetings, were replaced by one ward councillor per 5,000 inhabitants.

Ironically, one of the main aims behind the formation of Greater Bangalore was to balance growth by providing all citizens with basic amenities on a par with the situation in the core city. It is more likely that the villagers will have to make do with what their aquifers can give them. Policies and guidelines on how to rejuvenate surface water tanks and harvest rainwater in rooftop structures must therefore be implemented, on community bases or individually, regardless of whether they are mandatory under a building bye-law.

2.5 Regulating rainwater harvesting

For expanding the Water Board's operations under the GBWAS Project, 135 MLD was reserved from the Cauvery Scheme, Stage IV Phase II, which is planned to augment the amount pumped from the river with an additional 500 MLD. However, this stage will not begin until mid-2008 at the earliest, and the capacity of the trunk mains and feeder lines being installed has to be further increased to ensure regular supply. The Water Board was early aware that water shortage precludes the

¹¹⁴⁰ Although very many of the city's residents, maybe a majority, cannot read *Kannada*, the application forms are available only in this language.

¹¹⁴¹ Lalitha.

prospect of supplying the entire area under GBWAS Project. Even for those already connected, the Board will soon have to cut the hours of supply from eight to six or even fewer, and/or deliver only every third day.¹¹⁴² Together with raised tariffs, these methods force people to consume less water – thus implementing demand-side management. Not all these incentives and disincentives are within the Board’s power to decide, though. Hiked tariffs are ultimately a question for the State legislature.

But the Board appears to pay little attention to the limits of its decision-making power. This shows from an interesting example concerning rainwater harvesting (RWH). From 1 April, 2007 – in the middle of the hot and dry summer – all applications for new water supply and sanitation connections were held pending during three pre-monsoon months. The Chief Engineer in charge of maintenance issues told the mass-media that there was such a shortage of bulk water that even if the Board had sanctioned the 2,000-odd applications filed each month, it would have been unable to provide the service. On 1 July, with the onset of the monsoon, the temporary ban was lifted.¹¹⁴³ The decision had been necessary due to an urgent water shortage, a result of the small amount of water yielded from the almost dry T.G. Halli reservoir. The Board apparently perceived it as expedient to handle the situation in a radical manner.

In June, the mass-media revealed how the Board’s executive engineers had been ordered by means of an internal circular not to grant any new connection unless the bye-law on RWH was met.¹¹⁴⁴ According to this bye-law, every building with a plinth area exceeding 100 m² and built on a site measuring not less than 200 m² shall have one or more rainwater harvesting structures with a certain minimum total capacity.¹¹⁴⁵

The Water Board engineers were, however, ordered not to sanction *any* new connections without RWH structures, irrespective of size. On 30 June, the Water Board communicated that it had ‘relaxed’ the requirement for a RWH structure for houses on sites measuring 20x30 feet as well as for houses in slum areas, those on a tank bed or in low lying areas, and houses considered, upon inspection, to be in an extraordinary condition.¹¹⁴⁶

Though the relevant bye-law was already in force by the middle of 2004, it had not been given much attention by the authority responsible (the Corporation). A levy may be imposed for the failure to provide or to maintain RWH structures as required, but such a sanction can be decided only by the Corporation. Under no circumstances has the Water Board been empowered to see to the bye-law’s enforcement through its decisions and operations. Postponing new connections as

¹¹⁴² Personal communication, Water Board engineer January 8, 2007.

¹¹⁴³ Anonymous 2007k; Anonymous 2007m; Anonymous 2007o; Anonymous 2007p.

¹¹⁴⁴ D. Gandhi 2007c; Anonymous 2007l; Anonymous 2007n.

¹¹⁴⁵ BMP Building Bye-laws 2003, No. 32, in force from 5 June 2004 and applicable within the jurisdiction of the Corporation. The details of the structure are laid down in Schedule XII.

¹¹⁴⁶ Anonymous 2007p.

during the summer of 2007 and, even more so, the request for RWH structures to be installed, were clearly *ultra vires* – beyond the Board’s legal mandate.

With better seasonal planning and control of available resources, and better communication with the Corporation, the Board may have been able to avoid the necessity to act arbitrarily. The decisions to let many thousands of connection applications lie pending and require RWH were, at the same time, rational. Given that the city had lacked a Corporation Council for almost six months, and the urgency of the scarcity problem, hasty action was called for. There was no time for bureaucracy. We can also presume that the decision-makers within the Board thought themselves entitled to take the decisions in question.

The drastic moves were probably only the beginning. Officials of the Water Board say rationing is probably the only way to ensure an ‘equitable’ water supply. During 2007, it nurtured far-reaching plans to install automatic rationing devices that would simply cut the distribution to each household after a certain level of consumption. Due to software problems, however, implementation of such a technical system had to be shelved – for the time being.¹¹⁴⁷

2.6 Concluding remarks

Clean and sufficient drinking water can be claimed as a right in India with reference to three legal sources. First, the importance of water for everyone’s well-being should be seen as morally and universally justified – a natural right. Secondly, existing international human rights law can be read so, that a right to drinking water is already provided for in the ICESCR and other binding and soft-law instruments – or can at least be interpreted as included in the valid provisions, both of which explained in General Comment No. 15. Thirdly, Art 21 of the Constitution as interpreted by the Supreme Court in *Subhash Kumar* and other precedents contains the valid positive law of India.

Nevertheless, the existence of the legally binding human right to water is not widely known – not among the general public, nor within the state authorities charged with the obligation to provide the people with water. The present study of the situation in Bangalore shows how ignorance of the duty to ensure the right is prevalent. The attitude is partly explained by the fact that the Water Act restricts Water Board operations by stipulating that all water distributed is to be charged for, and prevents it from providing water from public standposts with less than that the Corporation pays for this. This has the effect of excluding groups of rightfully entitled people from access to water through the Board.

Without doubt, the core issue of the human right to water is now not the right – it is the task of assuming duties and responsibilities for water supply. The major obligation resting on the state in terms of ensuring access to everyone is the regulatory authority, including grievance redressal mechanisms and judicial remedies. The state also needs to make allocation priorities, decide whether the costs of the water

¹¹⁴⁷ S. Shivanand 2007.

supply are to be met via the general tax or through direct user charges. The state is especially needed as an actor to protect the interests of the poor section of society whose voice is seldom heard and whose members lack sufficient purchasing power.

Few households in the Bangalorean urban environment are self-sufficient in the sense of catering for their own needs and thus not requiring any outside system for water supply: medium and large-scale solutions for water distribution are, therefore, needed.¹¹⁴⁸ The costs need to be shared and here the idea of a *human right* becomes relevant again: drinking water as a fundamental necessity for life – from survival via well-being to development – can be a source of profit only once everyone’s needs are met. Here I am not content with the 20-odd lpcd required for very basic needs but call for a substantially higher quantity. Cross-subsidisation and a distribution policy are thus both inevitable in modern, urban water supply.

The state is compartmentalised as an effect of divided decision-making powers and decentralised performance. In the Constitution, the directive principles of state policy contain guidelines to both central and state governments for the governance of India. As a primary duty, the principles commit the state to raising the level of nutrition and the standard of living and to improving public health (Art 47).

But things fall between the cracks, and sometimes things conveniently fall into the shadows. When the Centre for Science and Environment and reporters from the magazine *Down to Earth* made their famous investigation into the state of India’s bottled beverages and drinking water in 2002-2003, they found barely any binding standards for what ‘potable water’ means. The Union Ministry of Urban Development had some years earlier refused even to discuss a proposed widening of the definition of ‘food’ to include drinking water under the Prevention of Food Adulteration Act, 1954 – because such a decision “would impose a legal commitment and obligation on the agencies for adhering to the recognised standards for potable water supplied by them”.¹¹⁴⁹ And that would, the Ministry explained in a letter, become a financial burden on State Government undertakings and on local bodies. The journalist commented upon the Ministry’s attitude:

“[T]his was an insuperable argument. Of simply not wanting to take on the task of providing clean water; of simply avoiding it; of representing a scene of change for the better as a pure financial nightmare. This is arrogant administration presenting itself as soft governance. This is plain shirking”.¹¹⁵⁰

Unfortunately, ‘shirking’ is what most responsible authorities seem to apply themselves to. Blame not falling on budgetary restraints falls on any other agency or department. However, after the *Gowramma* decision, more clarity has been brought to the fore: a duty as well as a power is vested in the Bangalore Water Board to arrange for a supply of water within its jurisdiction. Now we only await some clarity

¹¹⁴⁸ I do not include rainwater harvesting to recharge one’s own well here because only by exception do poor people own and control wells.

¹¹⁴⁹ Letter from the Union Ministry of Urban Development, cited in Anonymous 2003.

¹¹⁵⁰ Anonymous 2003.

as to exactly how far this jurisdiction stretches. Karnataka's Legislative Assembly is long overdue with a review of the entire Water Act. There is a dire need to bring the Act up to date with other new and/or amended acts, and in step with the physical expansion of the city. Bangalore will continue growing both horizontally and vertically, and more effective demand-side strategies will have to be forcefully implemented, coupled with remedies for non-performance.

The right to water needs to be realised for Bangaloreans living under conditions of extreme poverty – via increased cross-subsidisation, and continued use of public standposts and taps where water is provided free. This right and the Board's obligations in this respect must be codified. The poor constitute a wide and diverse group. Some have houses but no *kbata*, many live in shelters or on the pavements. The latter group is undoubtedly disadvantaged by an approach according to which 'there is' a willingness to pay for (improved) access to water, but only on paper.

Simultaneously, it must be recognised that numerous slum dwellers have the financial capacity *as well as* the factual willingness to get proper, metered, billed-for connections to their homes. Their lack of *kbata* needs to be dealt with by the Board and the legislators, and this right must be formalised, transparent, applied equally, reliable, and justiciable – not remain an item of policy information on a web page and a memory of the time when a Social Development Unit officer was in place.

Further, the Water Act must include provisions to integrate issues of groundwater management with various RWH measures. This means improving the holding of records, the metered control of abstraction from wells (at least those with a motorised pump), and the regulation of all well owners in terms of compulsory rooftop RWH to recharge the local aquifers. Not only new buildings of a certain size should come under this provision, as the prevalent Bye-laws stipulate, but RWH structures should also become mandatory for most existing buildings. This, in turn, must be integrated with the government's (Corporation) duty to maintain and rejuvenate tanks in the landscape for long-term storage, as wetlands and the like.

The current interpretation of the duty corresponding to the human right to water does not require the state as such *to provide* water, as long as it *ensures access* to it to an 'affordable' price. In other words, not all steps of supply and distribution have to be run by a public utility such as a municipality. (The rural context of India is fundamentally different and is not treated here.) Where urban dwellers – rich and poor alike – yearn for drinking water and are not assisted by the public utility's level of service, private vendors will function to supplement the deficiencies. A certain degree of 'private sector participation' is probably inevitable in modern urban water supply. As the various steps – from locating the water source to distributing the purified water to users and treating the leftovers before the water is returned to the environment – increase in number and level of technicality, water supply becomes increasingly complicated. Some devices and services – such as electric pump sets and automatic meter readers, digitalised purification processes and computerised maintenance systems, various know-how and specialised expertise – will certainly be manufactured and provided by other actors than the public body responsible for

the supply. Few public utilities have all competences in-house, and must therefore buy or outsource products, services and tasks, without this affecting the *right to access*. Long-term planning of water supply integrated with sanitation and other issues of infrastructure, ownership, follow-up and control, and like responsibilities must, however, remain in state hands, as the state can never escape ultimate accountability for ensuring that the right to water is fulfilled, corresponding with every group's ability to pay.

You see the tankers in every part of the city and everyone knows the system – you call, they deliver. Several telephone numbers are painted on the vehicles, indicating a level of professionalism and service-mindedness. Two questions no-one wants to ask, though, are whether this is lawful business, and what quality the water has.

In the next chapter, we look into the legality of this form of supply against the regulation of water as property. Under Indian law, is water susceptible of ordinary ownership, and do landowners have an unlimited right to abstract 'their' groundwater? The answers are of great practical importance to current and future strategies for access to water.

Yelahanka

– *If they cannot pay, they cannot stay. They should move to the city and find work.*¹¹⁵¹

Ignorant of the fact that most of the people he was talking about were employed somewhere – mainly as domestic workers in the case of the women, and as construction workers in the case of the men – the highest representative of the (then) Yelahanka municipality expressed his view on the slum dwellers' inability to pay for new water connections. He was equally ignorant of the fact that one of the oldest slum areas of Yelahanka was situated not far behind the municipality building in which he was located behind a desk. Rightly, though, the minimum wages which many of the poor people earn are far from sufficient to pay the connection fee that the Water Board was asking.

The 'city' referred to was Bangalore. Within two months, Yelahanka was made part of it by an administrative decision which with a stroke of the pen made the municipality part of one of the fastest-growing metropolises of India. But the slum dwellers and their general situation continued to be neglected by those responsible for the water supply. In November 2007, people from over 40 slums in the area went to protest.

*"For the past three months there has been no water supply. People have to wait for more than four hours to get water at Rs. 3 a pot" said Sheela, the organising secretary of Women's Voice, which led the protest. She termed it "a violation of human rights", and said that the burden was most of all borne by women as they were the ones who had to walk long distances.*¹¹⁵²

*The coping arrangements of the poor are stigmatised by caste in parts of Yelahanka. The dalits inhabiting a long-established slum of the old town have access only to the water that can be taken from a few taps and public standposts in and near their settlement. When earlier the dalit women had tried to use a standpost in the neighbouring area, the Brahmin women dictated the purposes for which that water could be taken, and by whom. They also made it clear that the pukka water delivered by tankers was not to be shared by the slum dwellers.*¹¹⁵³

¹¹⁵¹ Personal communication, Corporator, Yelahanka Municipality. November 29, 2006.

¹¹⁵² Anonymous 2007q.

¹¹⁵³ Personal communication with representatives from Yelahanka Old Slum November 29-30 and with Sri Jaitri, Yelahanka November 29, 2006.

Chapter IX

Property rights and wrongs

1 The Indian law of property – background

Kaveri and India's other national rivers are within the purview of the state's legislative control and their water is often talked about as being *owned* by the state. Likewise, though, according to a proverb, landlords are water lords in the sense that they are assumed also to own the groundwater under the surface of their land. Does this mean that the principle of *res commune* is not applicable? Answers specific to the Indian context are suggested here.

Both prior to and after enactment of statutory law at the end of the nineteenth century, Indian courts applied English common law to determine property-related disputes. This law was not always appropriate or at all applicable to the social conditions of India, and the body of case law that developed became confused and conflicting as a result. The colonial rulers eventually appointed a Law Commission to rework English law into a mould that was more suitable. The Transfer of Property Act (hereafter: TPA) was passed in 1882, after several Bills had been redrafted to better suit local law and usage.

The persistent influence of the English legacy – and its Roman roots – shows from the fact that English doctrines remain of large importance, and statutory law such as the TPA is still in force largely unchanged. India has not witnessed the legal reforms that many other formerly colonial countries (most notably, South Africa), have undergone in the recent past or for that matter the modernisation of the area that took place in England beginning in 1925. Hence Indian lawyers (including stu-

dents, practitioners and judges) are referred to a mix of common-law textbooks and court decisions with origin in old as well as more updated English and Anglo-American, and sometimes Australian, legislation. The result is a vast body of law, badly arranged and difficult to grasp compared to what a modern legal system offers. This is particularly problematic for the purpose of managing a scarce, vulnerable and fundamental resource such as water.

It should be noted that Indian law in the area has always deviated somewhat from English – before, during, and of course after colonial rule. Property and related concepts were not unknown in the area prior to the imposition and borrowing of philosophical and legal ideas from Europe. The *Manusmitri*, Islamic law and applicable customary law all contain references to ‘first possession’, shares in property, rules on what can belong to whom, etc.¹¹⁵⁴ According to the ancient Hindu conception, individual (male) subjects could acquire ownership in cultivable land and the right of the state was confined to a share of the produce, in the form of revenue.¹¹⁵⁵ Such ownership rights “were generally acquired by cultivators entering upon land, improving it, and making it productive”, and a right to possession was seen as acquired by the first person to make a beneficial use of the soil.¹¹⁵⁶ Hence, the English rule that the Crown was (and still is) the ultimate owner in land never took hold in India, though the English rulers tried to invoke it. Cultivable land remained the object of ‘ownership’ and not merely of tenure, as was (is) the case in English law.

2 Regulation of water as property

2.1 Classification of immovable property

Imposing their property law, the English also introduced the classification of land and other material objects as ‘immovable’ property. For reasons like those given in Chapter VII, a distinction is also made between land and other types of property in Indian law. Agreements on transfer, conveyance, disposal, etc., of immovables are hence surrounded by formalities (such acts as sale deeds, leases) and mortgages are defined and regulated in the TPA. Likewise, the procedural rules on actionable claims differ.

The Indian Penal Code, 1860, states that

“[t]he words ‘moveable property’ are intended to include corporeal property of every description, *except land* and things *attached* to the earth or permanently fastened to anything, which is attached to the earth” (Sec 22) (emphasis added).

¹¹⁵⁴ Subha Rao, pp. 17ff. Mulla, p. 1, maintained that “[b]efore the Transfer of Property Act, there was practically no law as to real property in India”. This somewhat contradicts what Subha Rao wrote.

¹¹⁵⁵ Subha Rao, p. 17, referring to the texts of the *Manu Smriti*. It appears that *Mahomedan* Law also recognises the rights of subjects to have absolute property in land.

¹¹⁵⁶ *Venkatanarasimha Naidu v. Kotayya*, ILR 20 Mad. 299 at p. 301, quoted by Subha Rao, p. 21.

The TPA contains an interpretation clause with a negative definition. Hence, it does not express what immovable property is, but states that

“immovable property does *not include* standing timber, growing crops, or grass” (Sec 3) (emphasis added).

Equally imprecise is the definition in the General Clauses Act, 1897, which says that

“‘immovable property’ *shall include* land, benefits to arise out of land, and things attached to the earth, or permanently fastened to anything attached to the earth, ‘[m]ovable property’ shall mean property of every description, *except* immovable property” (Sec 3) (emphasis added).¹¹⁵⁷

The Registration Act, 1908, contains a definition which is wider than – but also somewhat combines – the two mentioned above:

“‘immovable property’ *includes* land, buildings, hereditary allowances, rights to ways, lights, ferries, fisheries or any other *benefit* to arise out of land, and things attached to the earth or permanently fastened to anything which is attached to the earth, but *not* standing timber, growing crops nor grass; (Sec 2(6))

‘movable property’ *includes* standing timber, growing crops and grass, fruit upon and juice in trees, and property of every other description, *except* immovable property” (Sec 2 (9)) (emphasis added).

These three slightly different definitions of ‘immovable’ and ‘movable’ property are not to be read as contradictory or inconsistent with each other, neither are any of the Acts’ definitions exhaustive: they enumerate categories and items to be included and excluded.¹¹⁵⁸ In a dispute, a court will have to make a decision on which Acts apply, with a view to the context.¹¹⁵⁹

¹¹⁵⁷ Sec. 4 of the General Clauses Act stipulates that the definition applies “to all (Central Acts,) and Regulations made on or after the fourteenth day of January, 1887”, hence also to the Property Act.

¹¹⁵⁸ Subha Rao, p. 53.

¹¹⁵⁹ As the three definitions above are found in acts promulgated by the English during the colonial time, it is interesting to compare them with the equivalence piece of legislation enacted in England itself decades later: the Law of Property Act of 1925, applicable to England and Wales. For this, the legislator chose a different technique, focusing on what the notion of ‘land’ should embrace for the purpose of the Act instead of taking immovable (and movable) property as the point of departure. Hence, the English Act states that ‘land’ includes “land of any tenure, and mines and minerals, whether or not held apart from the surface, buildings or parts of buildings (whether the division is horizontal, vertical or made in any other way) and a rent... and an easement, right, privilege, or benefit over, or derived from land”, Sec 205 (1)(ix). There is no information as to whether any amendments were even discussed of the Indian law, being part of England’s jurisdiction at the time, to make its definition of ‘land’ clearer.

2.2 Classification of water as property

The law on water as property is – judging from the Indian textbooks in the field, the few court cases, and statutory law – mainly concerned with riparian rights and interests (foremost easements). Statutory law leaves unanswered what class ‘water’ belongs to: is it real/ immovable property – land in extended an meaning – or a mere chattel, a movable thing? As shown, the definitions found in the Penal Code, the Transfer of Property Act, the General Clauses Act and the Registration Act are brief and non-exhaustive in their formulations. None relates directly to water, and interpreting any of them on the matter by way of analogy or contrariwise without further support is fraught with insecurities.

The 1973 Code of Criminal Procedure defines criminalised disputes over land or water or the boundaries thereof. The expression ‘land or water’ thus includes buildings, markets, fisheries, crops or other produce of land, and the rents or profits of any such property (Sec 145). The provision comes under a heading saying ‘Disputes as to *immovable* property’ (emphasis added). Though the heading’s classification of water as immovable is not binding in itself, it indicates that water is perceived as real, immovable property.

According to *G.C.V. Subha Rao*, ‘land’ in Indian property law means the surface of the earth as well as subjacent things.¹¹⁶⁰ The autonomous ‘Halsbury’s Laws of India’ gives somewhat conflicting views in the volume defining ‘Property and Easements’.¹¹⁶¹ In the entry ‘Meaning of real property’ it is held that the term is used to denote land as well as things so attached to land as to become part of it.¹¹⁶² Further down, the entry ‘General meaning of “land”’ is similar to the definition in the English edition, holding that land includes waters.¹¹⁶³ However, in a separate entry in ‘... India’ we find ‘Water and sludge’ (which has no correspondence in ‘... England’), where it is set out that “[w]ater is *movable* property” (emphasis added).¹¹⁶⁴ Hence, we have two immediately opposite propositions as to how to classify water.

When looking closer at the latter entry, we find that it is supported by reference, in a footnote, to a judgement of 1979 from the Allahabad High Court: *Chief Controlling Revenue Authority v. Anti Biotic Project*.¹¹⁶⁵ In this case, reference was in turn made to cases from Indian, English, and American courts.¹¹⁶⁶ One of these is *Mitchell v. Warner* (1825), in which the Connecticut Supreme Court (U.S.) stated that

¹¹⁶⁰ Subha Rao, p. 53.

¹¹⁶¹ Halsbury’s Laws of India, Vol. 12.

¹¹⁶² *Ibid*, para 240.003.

¹¹⁶³ *Ibid*, para 240.014.

¹¹⁶⁴ *Ibid*, para 240.011.

¹¹⁶⁵ *Chief Controlling Revenue Authority v. Anti Biotic Project*, AIR 1979 All. 355.

¹¹⁶⁶ AIR 1976 SC 1813. One of the cases was *Board Revenue v. A.M. Ansari*. Here, an agreement concerning a right to pluck, collect and take away forest produce was not considered as creating a right or interest in immovable property – but merely a right to cut the *fructus naturales*. The outcome of the case is not further commented on and the point taken from it in *Chief Controlling Revenue Authority* is obscure.

“[w]ater is *neither land* nor tenement nor susceptible of absolute ownership. It is a movable thing and must of necessity continue common by law of nature. It admits only of a transient usufructuary property and if it escapes for a moment, the right to it is gone forever, the qualified owner having no legal power of reclamation. It is not capable of being sued for by the name of ‘water’ nor by the calculation of its cubical or superficial measure, but the suit must be brought for the land which lies at the bottom covered with water. As water is *not land*, neither is it a tenement, because it is not of a permanent nature, nor the subject of absolute property. It is *not in any possible sense real estate*... [W]ater is *a distinct thing* from the land” (emphasis added).¹¹⁶⁷

The Court was here drawing on Coke and Blackstone’s words,¹¹⁶⁸ and expressed the confusion and disorder that comes from efforts to classify water as neither immovable nor movable property, but as *res communes* and a thing being qualified property during possession.¹¹⁶⁹ That the Court expressly laid down that water is not real estate, and is a thing distinct from land, cannot therefore be interpreted *e contrario* so that water as such was considered as a chattel. Hence the case does not support the classification of water as movable property.

Another case that should be mentioned among those referred to is *Alamsber v. Ram Chand*.¹¹⁷⁰ Here, the High Court laid down as an interpretation of the General Clauses Act that

“water, as long as it is flowing in the bed of a stream or river, is *attached* to the earth, and is therefore *immovable* property, though it can be *made into movable* property by severance or removal from the earth” (emphasis added).¹¹⁷¹

The notion of severance of water from real property so as to make it become movable property was thus employed.¹¹⁷² In *Alamsber*, the conditions were such that an agreement on certain water rights prevailed and parts of the rights had been sold to a third party. The Judge continued by holding that the subject matter of the lawsuit in question

“is *not any particular water*, but the right to the *use* of water. The right to such use is certainly a *benefit* and it arises out of land, because the water of a perennial stream *comes out of land*. Even if it came out of the clouds, I should be inclined to hold that the benefit arises out of land, because the water must be first received by the land before it can be beneficially diffused” (*sic*, emphasis added).¹¹⁷³

¹¹⁶⁷ *Mitchell v. Warner* (1825), 5 Conn. 497, pp. 518f. N.b. that the reference given to *Mitchell* in the Allahabad case report is wrong.

¹¹⁶⁸ “[W]ater is a moveable, wandering thing”, Bl Comm Book II, Ch 2, p. 18.

¹¹⁶⁹ Cf. Hilliard, p. 104.

¹¹⁷⁰ *Alamsber v. Ram Chand* 1898 Pun Re 11.

¹¹⁷¹ *Ibid.*

¹¹⁷² The U.S. Court in the *Copeland* case (referred to in Chapter VII) expressed it similarly 15 years later, indicating that both courts took the formulation from some authoritative source that I have not located.

¹¹⁷³ *Ibid.*

Surface water, and probably also groundwater, were in other words interpreted to be land – immovable property – until separated from the land, after which it would be classified as movable. As seen, this is typically taken from what Coke and Blackstone contended.

Interestingly enough, the Judge in the *Chief Controlling Revenue* case cut the sentence cited from *Alamsber*,¹¹⁷⁴ and then compared incorrectly with standing timber – to conclude that water “is not immovable property”.¹¹⁷⁵ Taken together, what was held in *Chief Controlling Revenue Authority v. Anti Biotic Project* should be considered of little precedential value and the statement in Halsbury’s Law of India that “water is movable property” should not be given any attention.

Water in India – surface as well as ground – must therefore be classified as immovable property, just as in English common law. This would, in theory, affect how water is conveyed, what procedural rules apply, and so on – stricter rules apply than if water had simply been seen as movable property. The effect of the distinction is partly lost on groundwater as it is differently seen altogether, but in a dispute over severance and ownership, the classification matters.

Regarding rainwater, harvesting of which has been practised in India since pre-historic times¹¹⁷⁶ in percolation ponds which recharged the groundwater, in surface water tanks, and nowadays often in rooftop structures, it could be asserted that water harvested and stored is (more or less permanently) *attached* to the land, and it should therefore be seen as immovable property until severed from the tank by pumping or the like, and deemed as ‘captive’.

2.3 Riparian rights and inter-State rivers

India’s seventeen inter-State rivers and river valleys, regulated under the Constitution (Art 246 and Entry 56 of the Seventh Schedule), are a responsibility of the Centre government in so far as the Union parliament has legislated on the matter in the public interest. As mentioned, the River Boards Act and the Inter-State Water Disputes Act were both enacted in 1956. As for rivers and streams with no inter-State course, numerous Acts and Rules are in force in the respective States. These regulate the subject of ‘water’: fishery, drainage, irrigation, channels and canals and their maintenance, water rates and cess, command area development, and maintenance of tanks. Some of the Acts were issued by the colonial rulers and are still in force,¹¹⁷⁷ others are of more recent date.

¹¹⁷⁴ Para 7 of AIR 1979 All. 355 is formulated as follows: “In *Alamsber v. Ram Chand* (1898 Pun Re 11) the Court held that ‘Water.....though it can be made into movable by severance or removal from the earth. Similarly, standing timber, which has to be cut down and removed is movable property’” (*sic*). The positioning of the end quotation mark gives the impression that the Judge in *Alamsber* stated something about timber. This is not correct; the quotation mark should have been placed after ‘earth’.

¹¹⁷⁵ AIR 1979 All. 355, para 7.

¹¹⁷⁶ Cf. Agarwal & Narain.

¹¹⁷⁷ Cf. Raju, p. 174.

In water-rights discourse, it is sometimes held that the Indian Easements Act, 1882 (hereunder: the Act), lays down or codifies government rights over water, rights previously belonging to and vested in individuals or communities. By the enactment of state legislation on irrigation, command areas and the like, powers and jurisdiction have been ‘taken away’, according to this perception. Although it can hardly be correct to maintain the general existence of equitable rights in water vested with the people prior to colonial rule and the Act (*cf.* Mosse), it is worth looking closer at property rights over rivers and streams as regulated accordingly.

The Act was adopted in 1882 as part of the English colonisers’ codification efforts. It was drafted by the Indian Law Commission, consisting of two British officers. It is heavily influenced by the common law of the time and it has been held that it was therefore perceived as just, equitable and almost free from the ‘local peculiarities’ applicable around the country prior to the codification. As the rights with which the Act dealt were thought to be practically unknown, not least in some rural districts of India, the provisions originally extended only to specified towns.¹¹⁷⁸

The Easements Act contains an important savings clause, stating that

“[n]othing herein contained shall be deemed to affect any law not hereby expressly repealed; or to *derogate from* –

(a) *any right of the Government to regulate* the collection, retention and distribution of the water of rivers and streams flowing in natural channels, and of natural lakes and ponds” (Sec 2(a)) (emphasis added).¹¹⁷⁹

I can only interpret this, especially the words ‘any right’, to mean that the Act recognises the right of the state to regulate these waters. This should not be understood in terms of ‘ownership’ but that the water ‘belongs to’ the public for beneficial use. This is hence a codification of the Roman principle that water in its natural state etc. is incapable of ownership – it is *res communes*, a common property resource. This can be seen against the contextual background of how the English courts in the mid-nineteenth century struggled to ‘make the law’ and substantiated their reasoning with Coke and Blackstone’s doctrines.

The intention of the legislator was not necessarily in line with the landowning elite’s perception of water being their private property right. These essentially contradictory views seem to persist today, creating tension and underlying a discourse on state appropriation of ‘the people’s rights’.¹¹⁸⁰

However, the provision continues by providing for (any right of the Government to regulate)

¹¹⁷⁸ Publishers/Introduction to The Indian Easements Acts. A twofold objection raised against a first draft was that by informing people of their certain rights, litigations would be provoked, and it would furthermore have the effect of abolishing, or otherwise interfering with, easements recognised by local usage only, *ibid.*

¹¹⁷⁹ The word ‘Government’ has been substituted for ‘Crown’ as it was originally enacted in the 1880s.

¹¹⁸⁰ As will be mentioned in next chapter, the reforms to turn over the O&M to irrigation farmers have been treated by innumerable scholars and lie outside the scope of the present work.

“the water flowing, collected, retained or distributed in or by any *channel* or other work *constructed at the public expense for irrigation*” (Sec 2(a)) (emphasis added).

This amounts to original codification enacted centrally, to control water of ‘government sources’ for irrigation of command areas. Control being vested with the state, the English hereby usurped the right to manage, maintain and operate man-made canals and irrigation works in Indian villages.

Divan & Rosencranz describe this as a “tussle for control over natural resources... which were important economic subjects”. The same question was again made topical after Independence when the legislative authority over ‘water’ was to be divided between the Centre and the States in the new Constitution.¹¹⁸¹ The role of the law and the legal system is contested in this regard because in the opinion of those concerned, what is right diverges from what the law stipulates, and the law-maker had no or little legitimacy to impose the rules in question. We will consider this issue from a slightly different angle in Chapter X.

We can compare this with what Justice R.P. Sethi expressed in relation to the River Krishna in *State of Karnataka v. State of Andhra Pradesh & Ors.*: a belief in water being a universal right:

“Water is a unique gift of nature which has made the planet earth habitable. Life can not be sustained without water... International and inter-State disputes regarding the use of water are sought to be settled by recourse to the process of law in place of the old doctrine or settlement ‘by war or diplomacy’. Water under all prevalent systems of law has been declared to be the *property of the public* and dedicated to their use, subject to appropriation and limitations as may be prescribed either *under law or by settlement or by adjudication*. The disputes relating to water management, its development and its distribution are *to be considered not from rigid technical or legal angle* but from the pre-eminently important *humanitarian point of view* as water wealth admittedly forms a focal point and basis for the biological essence and assistance of socio economic progress and well being of human folk of all the countries” (emphasis added).¹¹⁸²

These observations, added to the main judgment by Sethi, give recognition to several important principles and values. Water is public property, it can be regulated by formal means, and it can be subject to law as well as settlement and court order. A ‘settlement’ refers here to decisions reached by an inter-State water disputes Tribunal – but it seems as if it could also mean an agreement negotiated between parties, thus an alternative dispute resolution. Nevertheless, a water-related dispute should, according to the normative view the Judge expresses, not be considered from a ‘rigid technical or legal angle’: more important is the humanitarian aspect and the fact that water is a basis for biological life. The approach to law as an instrument establishes that regulation of water needs to relate to the inherent high value in the resource.

¹¹⁸¹ Divan & Rosencranz, p. 43.

¹¹⁸² (2000) 9 SCC 572 = 2000 (3) SCALE 505 *per* Sathi, J.

3 Property in groundwater

3.1 A chattel?

Indian law on property in groundwater has not undergone any reforms since colonial times. English common law will hence continue to play a decisive role in determining what applies. Because Chhatrapati Singh is much cited despite having written no more than half a page on groundwater, some space will here be devoted to refuting what he held.

Singh maintained that “[i]n short, groundwater is attached, like a *chattel*, to land property” (emphasis added).¹¹⁸³ As shown above, this is erroneous. Did Singh mean that groundwater is something that is permanently attached to land like a *fixture*? It should then still be classified as immovable property until severed from land. However, he wrote nothing that can be further interpreted in this regard. Rather, I would hold that Singh wrote this based on a misconception – to which we will return shortly – of the legal definition of an *easement*. Since nothing else in his texts supports the stance that groundwater is a chattel, I do not find it possible to consider it as anything but a misnomer.

According to Blackstone and American common law, groundwater nevertheless becomes thing-like after being captured: a moveable subject to private ownership which can be freely traded with like any other economic good. The question of exactly when the severance from land takes place, when the water is captured, finds no answer in Indian law with less than a rule being laid down on this. We can compare with how the concept of ‘fixtures’ seems to be equivalent to that of ‘attached’ in India.¹¹⁸⁴ The legal system contains both statutory provisions and precedents to a similar effect.¹¹⁸⁵ ‘Standing timber’ (that is fit for use in building and repair work) as well as growing crops and grass (destined to become corn and fodder) are not at all seen as immovable property in Indian law. Trees and shrubs that are rooted are seen as ‘attached to the earth’ and thus land, but they become movables ‘after’ severance.¹¹⁸⁶ By analogy, this should apply also to groundwater.

More in line with the valid law, Singh also noted that “[t]here is no limitation on how much groundwater a particular land owner may draw”.¹¹⁸⁷ Though no reference is given, we recognise this from the *cuius est* maxim and the English rule ac-

¹¹⁸³ C. Singh 1991, p. 39, 1992, p. 18.

¹¹⁸⁴ The word exists in the Concise Law Dictionary, p. 334, but *cf.* Subha Rao, pp. 57f on the differences between English law and Indian law.

¹¹⁸⁵ *Cf.* Subha Rao p. 58. From the decision in *Thakur Paramanick Chunder v. Ram Dhone* W.R. 288 (F.B.) it seems that, at least prior to 1927, there was nothing in the Indian laws or customs that indicated the existence of an absolute rule concerning ‘what is fixed’.

¹¹⁸⁶ *Sukery Kurdepa v. Goondakull* (1872) 6 Mad. HC 71. According to Aiyar’s Concise Law Dictionary, the term ‘severance’ signifies separation of something that is attached to real property. It is typically used in regard to the cutting and removal of standing timber or crops from the land. ‘Severance’ is also mentioned in the TPA, Sec 37, regulating effects of division of real property into several shares.

¹¹⁸⁷ *Ibid.*

ording to which landowners have an unlimited right to abstract groundwater (first pronounced in *Acton*). “The consequence of such a legal framework”, Singh continues,

“is that *only the land-owners can own* groundwater in India. It leaves out all the landless, and tribals who may have group (community) rights over land but not private ownership. It also implies that rich land-lords can be water-lords and indulge in openly selling as much water as they wish” (emphasis added).¹¹⁸⁸

If we begin by looking at the ‘legal framework’ which Singh referred to, an interesting question is – how did the rule laid down in *Acton* become part of Indian law? We have to scrutinise another piece of legislation, namely the Indian Easements Act, to find the answer.

3.2 An easement?

The following definition is given in the Indian Easements Act (the Act):

“An easement is a right which the owner or occupier of certain land possesses, as such, for the beneficial enjoyment of *that land*, to do and continue to do something, or to prevent and continue to prevent something being done, in or upon, or in respect of, certain *land not his own*” (Sec 4) (emphasis added).

In an Explanation after this provision,¹¹⁸⁹ further definitions of the expressions ‘land’, ‘beneficial enjoyment’, and ‘to do something’ are given. A list of Illustrations also follows, stating examples of what is and what is not to be seen as easement rights. For instance, Illustration (b) describes that the owner of a house has (an easementary) right to go on to his neighbour’s land and take water for the purposes of his household; and in (f), it is said that the obligation to cleanse a water course for the benefit of a lower riparian owner is not an easement.

As noted in Chapter VI, a valid easementary right is to be understood as a *restriction* on the full and exclusive rights that the servient landholder held before the easementary right came into existence. The Act states that

“[e]asements are restrictions of one or other of the following rights (namely):–

- (a) Exclusive right to enjoy. – The exclusive right of every owner of immovable property (subject to any law for the time being in force) to *enjoy and dispose* of the same and all products thereof and accessions thereto.
- (b) Rights to advantages arising from situation. – The right of every owner of immovable property (subject to any law for the time being in force) to *enjoy* without disturbance by another the natural advantages arising from its situation” (Sec 7) (emphasis added).

One Illustration accompanying Sec 7 is highly relevant:

¹¹⁸⁸ *Ibid.*

¹¹⁸⁹ In Indian bare acts, Illustrations and Explanations are a part of the provision under which they are put.

“The right of every owner of land to *collect and dispose* within his own limits of *all* water *under* the land which does *not pass in a defined channel*” (g) (emphasis added).

In other words, a valid easement functions as an encumbrance on the servient owner’s *right to the groundwater beneath his land*. But what is ‘the right’ that Illustration (g) refers to? Undoubtedly, it is the *cuius est* maxim and the rule laid down in *Acton*: a landowner has an unlimited (absolute) right to the water under his or her land. The words ‘not in a defined channel’ in the Illustration add the rule on percolating water from *Chasemore*. Two-thirds of India is hard-rock terrain, meaning that the groundwater prevails in aquifers of weathered bedrock and jointed, interconnected fissures. There is therefore essentially no such thing as groundwater in defined channels.¹¹⁹⁰

Illustration (g) has been misconstrued by many scholars as laying down, *per se*, an ‘ownership’ to groundwater; although it is clearly a reference to an existing right of usufruct (‘collect and dispose’ read together with ‘enjoy’ in Sec (7)).

Rather, we should understand the wording against the background of the legislators in the Law Commission: English officers familiar with the common law of their home country. With the reference quoted, they imposed certain parts of this law on the Indian legal system and the result is a non-express codification of English common law. Though the landmark decisions laying down this common law had been reached in a fundamentally different context – that of a rapidly industrialising England, where exploitation of natural resources was a prerequisite for expanding production – the result is that today Indian law supports an unlimited right of every landowner to collect and dispose of all water under his or her land. The right as such is not regulated in statutory law elsewhere than in the above Illustration, but references have been made in a few court cases, as shown below.

Chhatrapati Singh wrongly implied that groundwater ‘is’ an easement, though an easement is a (property) *right* that is created by a human act. His formulation was however not explicit:

“[I]f someone is interested in getting rights over *the easement* (over *groundwater* in this case) he would have to be interested in land” (emphasis added).¹¹⁹¹

Singh here interpreted the TPA and the Land Acquisition Act of 1894, though neither contains the word ‘water’. The TPA stipulates that “an easement cannot be transferred apart from the dominant heritage” (Sec 6(c)); the Land Acquisition Act contains a definition in line with this (Sec 3(b)). In Singh’s words, though, the TPA “necessitates that *this right (to groundwater)* can be given to anyone else only if the dominant heritage (land) is transferred” (emphasis added).¹¹⁹²

¹¹⁹⁰ Even if groundwater was found to exist in a ‘master joint’, the exact extent and conditions of the aquifer would most probably be too fraught with ‘practical uncertainties’ for it to be considered a ‘defined channel’ in the language of the law. *Cf.* the formulations in *Dickinson v. The Grand Junction Canal Company* (1852) 7 Exch. 282 p. 300 = 155 E.R. 953 (Ex.), pp. 960f.

¹¹⁹¹ C. Singh, 1991, p. 39, 1992, p. 18 (the same wordings in both).

¹¹⁹² *Ibid.*

It remains unclear why Singh thus misread the TPA, and even more so why others later have misconstrued his words – this should be impossible for anyone who can read the generic definition of ‘easement’ in the Act or in an ordinary dictionary. The latter problem can partly be explained as Chinese whisper: few scholars or debaters have read either the Act or Singh’s texts but take sentences from some other writer without ever quoting the source. The misinterpretation thereby lives its own life and has become incorporated as the truth about the legal situation concerning groundwater.

3.3 Ownership? Unlimited right?

3.3.1 Pre-Constitutional rulings

Singh wrote that (only) landowners can own groundwater in India. As shown in the previous chapter, the term ‘own’ is not used in relation to water in Roman law or common law. Was Singh then wrong also in this part, or is groundwater subject to *dominium* in India?

With no applicable statutory law other than the Illustration to the Easements Act already mentioned, we are referred to court decisions to find out whether there is any law on the matter of ownership in groundwater. The result is meagre. Apart from two decisions, analysed below and in the next sub-section, there are “one or two pre-constitutional decisions of the High Courts supporting [the] view” that there is an “unfettered right” to extract groundwater.¹¹⁹³

In *Basavana Gowd v. Narayana Reddi*, decided by the Madras High Court in 1931,¹¹⁹⁴ the English doctrine as laid down in *Acton, Chasemore, Bradford*, and other cases was upheld in the sense that as between two landowners, neither was held to have right of property in water percolating underground in undefined channels. However, this doctrine was not considered of any assistance in determining the case as the conditions were perceived to be so different from those in England. First, the irrigation rights of *ryotwari*¹¹⁹⁵ vis-à-vis the Government with regard to its recognised sources of water are unknown to English law. Secondly, the water in a river recognised as a source of irrigation is the property of the Government. Thirdly, water percolating in a sandy riverbed in the dry months (October to July)

¹¹⁹³ *Perumatty Grama Panchayat v. State of Kerala*, 2004 (1) KLT 731 (High Court of Kerala, Single Bench), para 13. The Judge referred to *Kesava Bhatta v. Krishna* AIR 1946 Madras 334 (which has not been located for this study), summarising an observation made according to which the extraction of water running through unspecified courses beneath the ground was not an actionable wrong, relying on English decisions from the nineteenth century, *ibid*. No court decisions referring to the doctrine from the time post Independence have been found.

¹¹⁹⁴ AIR 1931 Mad 284.

¹¹⁹⁵ A *ryotwari* (or *raiyatwari*) is a registered proprietor and cultivator of agricultural land from which revenue was (is) collected on an individual basis. Introduced during colonial times, this was part of a revenue system under which property rights were given to cultivators. The irrigation rights put the government under an obligation to make water available to the *ryotwari* landholders, possibly as a contractual right.

between the monsoons is also a phenomenon unknown in England. Judge *Wallace* therefore stated that

“the underground water to which the English cases apply is usually water between layers of subterranean rock or clay so hidden that no one can guess what their course is. *In this country*, it is fairly safe to say that the under-current of a river is *probably* flowing down the river bed and that its course is *defined* in the sense that one will probably be able to tap it somewhere in the river bed, and the water thus is found in, and has not left, the recognized irrigation source, namely, the river” (emphasis added).¹¹⁹⁶

Judge *Pandalai* shared the doubts about the applicability of the English doctrine to sandy riverbeds in India’s monsoon climate. What, then, was the status of the percolation principle, according to which “no one, not even the owner of the soil under which it flows, has any property in such water till it actually reaches a defined channel and therefore there is no infringement of any right of property by appropriating what belongs to no one in particular”?¹¹⁹⁷ It was submitted that

“the question is not capable of a general answer applicable to all conditions to be found on the globe and that the doctrine of percolating water being *publici juris* must be applied to Indian rivers with due regard to the reasons of the rule which is ultimately one of convenience. As explained in the English cases if a man who sank a well was to be held liable for the diminution of water in the wells of surrounding properties, *to what distance is this liability to extend?*... There could be no reasonable method of fixing liability of such results. The doctrine, useful because convenient in such cases, becomes unmeaning where the result of drawing water from one place in a water-bearing river bed, at another not distant place *can be easily foretold from experience* (emphasis added).¹¹⁹⁸

By using the expression *publici juris* – meaning ‘of public right’ – Judge *Pandalai* effectively considered water to be a common property resource. This recalls how *Blackstone* chose to distinguish between ‘exclusive property’ in the sense of full and private ownership (*dominium*), and ‘qualified property’ which referred to a usufructuary right that lasts during possession. In other words, there would be no ownership of (ground) water in Indian law.

In *Basavana v. Narayana* it was also held as a consequence of the English rule that a landowner cannot go on to his neighbour’s land and pump water therefrom. In other words, an oblique tubewell so placed that it reaches under a neighbour’s land would (also) be trespassing.

The English doctrine has also been upheld in a couple of High Court cases in which Sec 7 of the Easements Act was interpreted; *Babaji Ramaling Sutar v. Appa Vitthavja Sutar*,¹¹⁹⁹ and *Karathbigundi Kesava Bhatta v. Sunnanguli Krishna Bhatta*.¹²⁰⁰ In *Ma-*

¹¹⁹⁶ AIR 1931 Mad 284, pp. 288f.

¹¹⁹⁷ *Ibid.*, p. 297.

¹¹⁹⁸ *Ibid.*, p. 298.

¹¹⁹⁹ AIR 1924 Bombay 154.

¹²⁰⁰ AIR (33) 1946 Madras.

homedans of Lonar v. Hindus of Lonar reference was instead made to Halsbury's Laws of England.¹²⁰¹ In the latter case it was also held that water percolating through the soil is not a subject of 'property', for flowing water is *publici juris*.

In sum, the above do not amount to absolutely authoritative precedents but the cases clearly substantiate the view that groundwater is *not* subject to ownership in Indian law.

3.3.2 Contemporary High Court decisions

A more talked-about case regarding groundwater extraction is the current 'Coca-Cola case' in Kerala (hereafter: the Plachimada case). In short, a Single Bench of the High Court of Kerala decided the case late in 2003, but this was modified in the same court's Division Bench in 2005.¹²⁰² The court case has, so far, come to concern the right of a landowner – a company – to draw large quantities of groundwater for its beverage manufacture, in relation to the rights of a village *Panchayat* to withdraw a licence given to this landowner for (parts of) its operations. The case thus concerns the general power of the *Panchayat* to protect and preserve the water resources in its jurisdiction, and more specifically, to control the use and enjoyment of groundwater in private property.¹²⁰³

It was within the *Panchayat's* power to grant permission for the use of electric motors running the water pumps, according to the Kerala *Panchayat Raj* Act, 1994, but did it have the power to cancel the same when it was up for renewal? This was done with reference to the acute drinking-water scarcity, the depletion of the groundwater table, and other severe environmental problems felt in the area – problems which were seen as directly caused by the company's activities. The Kerala Government, however, thought otherwise and ordered the *Panchayat* to renew the licence.¹²⁰⁴ The latter then filed a Writ Petition to enforce its right to cancel the licence, for the benefit of the general public.

The decisions reached by the Kerala High Court's Single Bench (with a lone Judge hearing and adjudging the case) and subsequently by a Division Bench (with two Judges) must be understood against the procedural frames of traditional dispute resolution mechanisms. As described in Chapter IV on the PIL instrument, private litigations are predetermined in terms of the role of the court, the pleadings

¹²⁰¹ AIR (32) 1945 Nagpur 106.

¹²⁰² *Perumatty Grama Panchayat v. State of Kerala* 2004 (1) KLT 731 (single bench); *Hindustan Coca-Cola Beverages (P) Ltd. v. Perumatty Grama Panchayat* 2005 (2) KLT 554 (division bench). – I have earlier written about this case, in an unpublished conference paper that was cited by the Planning Commission of India, 2007. The conclusions drawn then are partly different from those presented here.

¹²⁰³ Cf. Koonan, p. 7, who adds that the highly relevant issue of pollution and its impact was neither produced before nor discussed by the Court. The Kerala State Pollution Control Board had given permission to produce 561,000 litres of soft drink per day, each litre requiring 3.8 litres of water, Bijoy, p. 4333.

¹²⁰⁴ It was concluded as early as 2002 that the water was unfit for human consumption due to hardness and salinity, Bijoy, p. 4334.

and the rights invoked, the possible content of the directions, the remedies available, etc. These are technical aspects related to how the case is handled before, during, and after the court proceedings. The legal question to be answered, as formulated in the Single Bench's judgment, was therefore

“whether the decision of the Panchayat to cancel the licence of the industrial unit and order its closure on the ground of excessive extraction of groundwater is legal[,] and whether the interference made with that decision by the Government... is sustainable”.¹²⁰⁵

Whereas in the first decision, the Judge ruled that the company's extraction rate of 510 kilolitres of groundwater per day was “breaking the natural water cycle” and not permissible,¹²⁰⁶ it was held in the judgment by the Division Bench that any permissible restrictions, in the public interest, could only be to compel the company to ensure that by its conduct it does not bring about a drought or any imbalance in the water table.¹²⁰⁷ And whereas it was held by the Single Bench that the *Panchayat* was holding the groundwater resources in trust (applying the Public Trust doctrine as upheld in *Kamal Nath*), this was later amended. According to the Division Bench decision, the *Panchayat* had not been justified to cancel the licence and was directed to reinstate it.

Although the questions at issue essentially concern access to and competition over water, the *right* to water is hardly discussed by the Courts – the Supreme Court precedents on the (fundamental/human) right to water under Art 21 were not mentioned in any of the judgments. Since the Plachimada case was not a PIL, the Judges were unable to reason about and decide on matters not raised before them. We can therefore conclude that counsel for the *Panchayat* must have omitted to invoke Art 21 to claim that the villagers' right to drinking water was endangered by the large groundwater extractions. The case came to revolve around the *Panchayat's* jurisdiction but without a discussion of what powers the applicable *Panchayat Raj* Act confers for the purpose of local self-governance. This Act, promulgated to enforce Art 243G of the Constitution, regulates water in various provisions, but given its not-very-specific provisions and its many gaps, it should have been subjected to interpretation to determine how far the *Panchayat's* rights and obligations reach.

The responsibilities clearly comprise the public drinking water supply to the many landless *adivasis* (tribals) and *dalits* in the area, but how does this relate to the private sphere of individual landowners, including the company? We still do not know. And what about the company's right to abstract groundwater from under its land? In the Single Bench judgment, it was held with a very general reference to the “English decisions of the 19th century” that

¹²⁰⁵ 2004 (1) KLT 731, para 10. In legal terminology, the word ‘sustainable’ means ‘to be sustained’ as in ‘upheld’.

¹²⁰⁶ 2004 (1) KLT 731, para 13.

¹²⁰⁷ 2005 (2) KLT 554, para 49.

“[t]he principles applied in those decisions *cannot be applied now*, in view of the *sophisticated methods used for extraction* like bore-wells, heavy duty pumps etc. Further, those decisions and the above contentions are *incompatible* with the emerging environmental jurisprudence developed around *Art.21* of the Constitution of India” (emphasis added).¹²⁰⁸

The Judge’s reasoning in this part is erroneous. The doctrine of percolating water is without doubt applicable in India and to the facts of the case, and should not have been dismissed. It is also unclear what was meant by the reference to the ‘environmental jurisprudence developed around Art 21’. After an account of the Public Trust doctrine and the *Kamal Nath* case (“natural resources which are by nature meant for public use and enjoyment... cannot be converted into private ownership”¹²⁰⁹) and the fact that there is a right to life and to clean water under Art 21, the Judge held that

“even in the absence of any law governing groundwater, I am of the view that the Panchayat and the State are *bound to protect* groundwater from excessive exploitation. *In other words*, the groundwater, under the land of the [company], *does not belong* to it. Normally, every land owner can draw a *reasonable* amount of water, which is *necessary for his domestic* use and also to meet the *agricultural* requirements. It is a *customary right*” (emphasis added).¹²¹⁰

Against this, several arguments can be set. First, there is no ‘absence of any law governing groundwater’: *Acton* and the other relevant English cases were made part of Indian law during colonial times, as shown above. Secondly, the obligation to protect groundwater (a natural resource) with application of the Public Trust doctrine should not have been confused with whether the water ‘belongs to’ the company. These are entirely different questions of law and the Judge should therefore not have deduced a conclusion (“in other words”) on the property rights from the fact that the *Panchayat* and the state are ‘bound to protect’. Thirdly, if we go by *Basavana* and by Sec 7, Illustration g of the Easements Act and the pre-constitutional court decisions mentioned, referring in turn to the English doctrine, water under the company’s land does actually belong to it – as a usufructuary property right, albeit not by ownership.

Fourthly, there is no Indian or other rule on ‘normally’ or ‘reasonable amount’ – the right to groundwater is unlimited, according to *Acton*. Fifthly, there is no requirement that the water must be drawn for domestic or agricultural use. Lastly, as the right was laid down in cases such as *Acton* in England, and the Easements Act, it is now regulated under positive law. Nothing suggests the existence of an Indian customary right of the sort. Reasoning around *natural* rights in comparison to the English doctrine would have been more accurate, but no such was provided by the Judge.

The Division Bench later made an equally poor interpretation of the law:

¹²⁰⁸ 2004 (1) KLT 731, para 13.

¹²⁰⁹ *M.C. Mehta v. Kamal Nath* 1997 (1) AD SC 1 = (1997) 1 SCC 388, para 34.

¹²¹⁰ *Ibid.*

“We *have to assume* that a person has the right to extract water from his property, unless it is prohibited by a statute” (emphasis added).¹²¹¹

“We hold that *ordinarily* a person has right to draw water, in *reasonable* limits, without waiting for permission from the Panchayat and the Government. This alone can be the rule, and the restriction, an exception” (emphasis added).¹²¹²

“It *always* will be permissible for an occupier to draw water out of his holding. The permissible *restrictions, in public interest*, can only be to compel him to ensure that by his conduct he does not *bring about a drought or any imbalance* in the water table” (*sic*, emphasis added).¹²¹³

As can be seen, no reference whatsoever was made to the English cases or any applicable doctrines. The Judges merely gave support to the view that property in land renders the owner a right to a reasonable amount of groundwater by referring to the rule of law (“unless prohibited by statute”). This is altogether a weak justification of a right which, according to the Judges, was deduced from an assumption (“we have to assume”).

Although the *Plachimada* case cannot be compared with *Basavana*, little confusion as to the valid law seemed to have been felt when the latter was adjudged. The same applies to cases in which (Sec 7, Illustration g to) the Easements Act was interpreted by various High Courts, as mentioned above: the English doctrine was endorsed. It remains unclear why English common law was more or less ignored by the Single Bench as well as the Division Bench in the present case.

In effect, the landowner’s absolute and unlimited right to abstract groundwater was upheld, albeit on wrongful legal grounds. The fact that no statement on ownership was made in the current case should not be interpreted further, as the reasoning is altogether messy and ill-founded. Of larger interest are two doctrines that must be thoroughly scrutinised for the benefit of the fundamental issues at stake.

3.3.3 A clash between doctrines?

The crux of the matter in the *Plachimada* case is the clash between the English doctrine and the fundamental human right to drinking water. The former was laid down 150 years ago in a profoundly different context and has a rather weak legal foundation in India, whereas the latter is posited in recent case law from the Supreme Court and can be seen as a positive as well as a natural right, inherent in each person.

The ordinary (usufruct) right in groundwater applies – also in India, we can assume – as long as the groundwater is situated under the landowner’s soil and thus is considered within possession. In hard bedrock, possession may be difficult to determine exactly as aquifers consist of series of interconnected joints, cracks and fissures which can be situated partly under several estates, indifferent to administra-

¹²¹¹ 2005 (2) KLT 554, para 35.

¹²¹² *Ibid*, para 43.

¹²¹³ *Ibid*, para 49.

tive boundaries. How, then, is the question of who has possession of the water to be answered?

In *Acton* and in *Bradford*, it was expressed that if a landowner intercepts or drains off the water collected from underground springs in his neighbour's well, this inconvenience is to be regarded as *damnum absque (sine) injuria* – a loss without a legally recognised injury and for which the legislator has therefore provided no cause of action. The conduct is not wrongful in the eye of the law and there is no remedy to be sought even for malicious drainage of aquifers under adjacent land. A landowner pumping groundwater can simply not be held responsible for such consequences according to this ancient maxim, as the damage is due to natural conditions.

The doctrine has been upheld in several Indian cases, and would seem to apply in the Plachimada case too. Accordingly, the company would be entitled to drill bore wells within the boundaries of its land and pump the groundwater even to the detriment of villagers depending on public wells tapping the same aquifers *as long as* there is no law to the contrary, circumscribing such conduct. The *Panchayat* is not empowered to take on the role of legislator: the rule of law prohibits interference from an authority lacking the mandate to regulate the matter.

However, whereas the *damnum absque injuria* doctrine may be sound in the ordinary case between adjoining owners of land, it may not be so when the injury is inflicted on a large group of people with no other source of water for drinking. Rather, upholding the doctrine would be incompatible in its effect with the legally protected interest of a right to life. The loss ought therefore to be deemed actionable, and the question would become one of establishing the cause and effect relationship between the company's conduct and the aggrieved villagers, represented by the *Panchayat*.¹²¹⁴ I conclude that the *damnum* doctrine should not apply.

Another angle on the questions at issue is the Public Trust doctrine: the state (should) act as a trustee for the benefit of the general public, to protect the natural resources that are common property. The government is therefore required to act to preserve and maintain certain resources for the reasonable use of the public. As Sax has formulated it,

“water is incapable of ordinary ownership, is held in stewardship by the state, is the subject of a public trust”.¹²¹⁵

The state, the rural representative of which is the *Panchayat*, must hence be duly empowered to take its responsibility, or risk acting arbitrarily as in the present case. Simultaneously, the state – again represented by the *Panchayat*, this time already duly empowered under the State *Panchayat* Act, the 73rd Amendment to the Constitution and so on – is under an obligation to ensure each person his/her fundamental right to drinking water.

Where groundwater is considered incapable of ownership, the Public Trust doctrine instead suggests that the property right lies with the public.¹²¹⁶

¹²¹⁴ Such an investigation has been done but I refrain from commenting upon it here.

¹²¹⁵ Sax 2004, p. 1, referring to the situation in American law as stemming from Roman law.

3.3.4 Awaiting authoritative adjudication

As the *Panchayat* refused to issue a new licence to the landowner, the High Court in June 2005 once more ordered the wilful local authority to comply with its former decision.¹²¹⁷ A conditional three-month operating licence was therefore granted – but with thirteen conditions, the first of which being that the company shall not use groundwater for industrial purposes such as manufacturing of beverages. Simultaneously, the Kerala State Pollution Control Board ordered that the plant be shut down.¹²¹⁸ In November the same year, the Water Resource Department of the Kerala Government notified the area’s groundwater resources as over-exploited, requiring all industries to obtain additional clearance from the Government prior to abstraction. With the groundwater still suffering from pollution, the inhabitants of the area have lost their access to safe drinking water and rely on receiving it through pipes for a few hours every other day, and through tankers.¹²¹⁹

Although the case has aroused enormous attention in India and elsewhere, mainly due to the involvement of a multinational company once banned from the country (1977), no all-binding precedent has yet been reached on the issue. The *Panchayat* moved the Supreme Court in May 2005, and the Kerala Government did the same that September. It promised a speedy trial, but the case now seems to have met the same fate as most others awaiting trial in India: “with a backlog of over 30 million cases, it takes years for a case to be heard and resolved”, as the President of India said in a speech in February 2008.¹²²⁰ It is a worrying sign, however, that the future of this politically sensitive but fundamentally important case is obscured.

A moral angle on the issue of groundwater extraction is that of *reasonableness*. The Supreme Court has earlier held that life, public health and ecology have priority over unemployment and loss of revenue.¹²²¹ This was reiterated in *M.C. Mehta v. Union of India & Ors.* (2004), which concerned mining with effects on the water ta-

¹²¹⁶ Hilderling, p. 97.

¹²¹⁷ *Hindustan Coca-Cola Beverages (P) Ltd. V. Perumatty Grama Panchayat* June 1, 2005. MANU/KE/0154/2005. The judges found that the *Panchayat* had “been ill advised in the course followed, and if further directions are not issued, it may tantamount to shrinking of responsibility, and we have to ensure that lawful orders are obeyed. A Panchayat is entitled to hold an opinion, but when the Courts have pronounced upon rights and liabilities, they have to gracefully accept the verdict. This is the rule of law, as we understand it”. *Ibid*, para 15.

¹²¹⁸ Under the Environment (Protection) Act, the PCBs are to grant licences that are connected to qualitative standards, and follow up on industrial establishments. The mandate includes to choke the water and electricity supply, and even to close down factories, in case applicants don’t comply with effluent standards or conditions in the given licences. The Board referred to the company’s inability to explain the high cadmium levels in the discharged sludge. The closing order was also motivated with that neither had the plant an adequate waste water treatment systems, nor had the company provided drinking water to the villagers as directed. The company, just having resumed production, held that the PCB acted *ultra vires*; beyond the power delegated to it.

¹²¹⁹ Suchitra & Venugopal.

¹²²⁰ Anonymous 2008a.

¹²²¹ *M.C. Mehta v. Union of India & Ors.* (1987) 4 SCC 463.

ble. The Court added that in talking about sustainable development, “the required standard now is that the risk of harm to the environment or to human health is to be decided in public interest, according to a ‘reasonable person’s’ test”.¹²²² With reference also to the precautionary principle, it was held that “[i]n times of such water stress and desperation... water mining is nothing less than a gross act of wastage of a key resource”.¹²²³

No principle of reasonable use exists as to percolating waters in England – Lord Wensleydale attempted in *Chasemore* to develop his own doctrine on the matter, holding that “according to reason and law it seems right to hold that a land owner *ought* to exercise his right to use percolating waters in a *reasonable manner* with as little injury to his neighbour’s rights as may be” (emphasis added).¹²²⁴ He did not, however, gain any support for this in England. As mentioned in Chapter VI, the ‘reasonable use’ rule is instead important in parts of American water law.

In the Single Bench hearing, the counsel for the company submitted that “as a good neighbour”, the landowner may have “a *moral obligation* not to make excessive use of groundwater, so as to affect the persons in the neighbourhood”.¹²²⁵ Although in this case it was merely a rhetorical way of formulating the responsibility resting on the party causing the groundwater depletion etc., it is in line with the maxim in international law, *sic utere*. The Division Bench later held that it was an “essential duty” of the company to “actively involve in the community... especially in the matter of health and drinking water supply”.¹²²⁶

The matters of principle in the case need to be dealt with by the Supreme Court. The inter-connectedness of property in land, groundwater, the human right to drinking water, hydrogeological and climate-related conditions needs to be brought up and scrutinised with fresh eyes, according to the list of desiderata below. Even better, though, would be a completely new petition, filed as a PIL in the Supreme Court against any other landowner abstracting large quantities of groundwater. This way, a clear and unambiguous precedent could be laid down. To make a wish *de lege ferenda* (about the law as it ought to be), the Court would then take into account factors such as the following:

- the level of insecurity relating to assessing water in aquifers when hard-rock conditions prevail;
- the rate of recharge under normal monsoon periods as well as intensified precipitation and increased run-off as a result of climate changes;
- the impact of drilling an ever-increasing number of bore-wells to great depths within ‘the same’ area and having powerful pumpsets installed;
- the geographical location in the river basin and watershed;

¹²²² *M.C. Mehta v. Union of India* 2004 (12) SCC 118.

¹²²³ *Ibid.*

¹²²⁴ 7 H.L.C. pp. 380-9, per Lord Wensleydale.

¹²²⁵ *Perumatty Grama Panchayat v. State of Kerala*, para 13.

¹²²⁶ *Hindustan Coca-Cola Beverages (P) Ltd. v. Perumatty Grama Panchayat*, para 54.

- the Public Trust doctrine, as interpreted mainly by Sax;
- the precautionary principle and the polluter pays principle, with the onus of proof on the water abstractor/operator/developer;
- the principle of sustainable development and equitable sharing;
- (an Environment Impact Assessment, including public hearing, in the case of abstraction/activity of and over a certain size);
- the Californian principle of reasonableness;
- the priority between drinking water needs, agriculture, and industrial purposes as laid down in the National Water Policy; and
- Art 21 of the Indian Constitution read together with General Comment No. 15 and related documents.

This kind of approach would ensure a more holistic view of the rights and responsibilities involved in large-scale and prolonged groundwater extraction.

Although the Supreme Court cannot treat the pending case like a PIL in terms of reasoning, we can paraphrase the introduction of one such judgment to see how three Justices engaged formulated their verdict over a chemical plant in the *Bichhri* case in 1996:

“This writ petition filed by [the village *Panchayat*] brings to light the woes of people living in the vicinity of [beverage] industrial plants in India. It highlights the disregard, nay, contempt for law and lawful authorities on the part of some among the emerging breed of entrepreneurs, taking advantage, as they do, of the country’s need for industrialization and export earnings. Pursuit of profit has absolutely drained them of any feeling for fellow human beings – for that matter, for anything else. And the law seems to have been helpless. Systemic defects? It is such instances which have led many people in this country to believe that disregard of law pays and that the consequences of such disregard will never be visited upon them – particularly, if they are men with means. Strong words indeed – but nothing less would reflect the deep sense of hurt, the hearing of this case has instilled in us. The facts of the case will bear out these opening remarks”.¹²²⁷

The quotation speaks for itself, and could be cut and pasted into the final judgment in the Plachimada case. However, and this should not be forgotten, most medium-to-large abstractions of groundwater in India are *not* done by multinational companies already subject to much glee, but by landowners who are or have been farmers, for the purpose *predominantly* of agriculture. Among those are people pumping water from tubewells to sell – to other farmers, but also for drinking water purposes. Water users depend on access to groundwater, and they will need to depend on it tomorrow as well. For this reason, a dispute *such as* the Plachimada case must be decided soon to lay down predictable, transparent, and sound frames for groundwater use.

¹²²⁷ *Indian Council for Enviro-Legal Action v. Union of India* 1996 AIR 1446 = 1996 SCC (3) 212 = JT 1996 (2) 196 = 1996 SCALE (2)44.

3.4 Regulation of and policy on groundwater resources

Is it correct that ‘there is no limitation’ on how much water a landowner may draw, as Chhatrapati Singh held? At present, this is in line with valid law except where limitations have been introduced. Restrictions, although not very far-reaching, are in force in different States. The federal Ministry of Water Resources has drafted and circulated several versions of a groundwater ‘Model Bill’. Major ones came in 1970 and 1992, and the latter has been revised numerous times with the latest version issued in January 2005. The purpose of such a Bill is essentially to form a template for States in their own regulations of rainwater harvesting, notification of areas, requirements for application for permits prior to digging and drilling new wells, registration of existing wells and of all existing water ‘users’, etc. The 2005 Bill suggests that quite far-reaching power would be vested with the State governments, and that Groundwater Authorities are to be established in the States for handling management and development questions.

The Planning Committee’s Expert Group suggested that the Model Bill be strengthened in some respects. It relies on restricting the number of tubewells through permits. As experience shows, such a control mechanism, to be administered by officers, slows down the regulation process. Further, even if the number of tubewells is restricted, farmers can change the power of their pumps and draw more water, which may lead to inequitable distribution. Finally, the suggested permit system “bestows right to use groundwater on those who have already sunk a well excluding others. It is thus inequitable”.¹²²⁸ In addition, more participation was recommended.

Some States, mainly in the south of India (Maharashtra, Andhra Pradesh, Goa, Kerala, Tamil Nadu, West Bengal, Bihar, Himachal Pradesh and Union Territories of Lakshadweep, Chandigarh, Pondicherry and the jurisdiction of the Delhi Water Board), have passed various kinds of groundwater legislation during the past few years.¹²²⁹ All of those States have chosen different formulations from that of the Bill, and comparing them one can observe how some States have taken rather far-reaching steps to provide for a holistic perspective – notable is the Andhra Pradesh Water, Land and Trees Act, 2002.

Karnataka’s Groundwater (Regulation for Protection of Sources of Drinking Water) Act, 1999 came into force in 2003. It is intended “to regulate the exploitation of groundwater for the protection of public sources of drinking water and matters connected therewith and incidental thereto”. ‘Drinking water’ includes water for domestic purposes and for livestock, but not for any type of irrigation. Permission is needed for sinking wells within 500 m of a ‘public source’ of drinking water, which means a well from which the Government or a local authority provides water to the public, and includes any other drinking water sources as may be notified. The authority (the Deputy Commissioner) may declare an area to be a wa-

¹²²⁸ Planning Commission 2007, pp. 22f.

¹²²⁹ The acts in full text can be found via www.ielrc.org.

ter scarcity area for up to one year at a time and may, for the duration of the period of water scarcity, prohibit extraction of water from wells within 500 m of the public source.¹²³⁰ A watershed can be declared over-exploited and new wells in such areas need permission within the entire area. Extraction of groundwater from existing wells may be prohibited in over-exploited watersheds during the period from 1 February to 31 July every year if these, according to the Department of Mines and Geology, adversely affect public wells.¹²³¹ In the latter case, wells can even be closed down, subject to payment of compensation.

The Act, if properly implemented, could serve to protect wells used for public drinking-water purposes. It needs to be supplemented with a range of provisions to protect groundwater resources as such, though, and to integrate the management of groundwater with other resources in a more holistic perspective. A Karnataka Groundwater (Regulation and Control of Development and Management) Bill was passed in the State Cabinet in May 2007.¹²³² From the little information available via the mass-media, it intends to make it mandatory for all existing buildings – residential and commercial – in urban and rural areas to equip with *water harvesting technology*, make it mandatory for all owners of open wells and bore wells to *register* themselves, and lay down that no person, household or firm will be allowed to *use* groundwater without the permission of the Authority. Similarly, all people have to obtain *permission* from the Authority to dig a well or drill a bore well. A Groundwater Authority is to be set up to control and regulate the exploitation of groundwater.

The above Bill seems to be articulated in line with what the Model Bill contains. Some of the wording resembles that of the Kerala Groundwater (Control and Regulation) Act, 2002, according to which *all* groundwater *users* must register – a poor formulation.¹²³³ It remains to be seen when the Bill is decided in the Legislative Assembly and when it is published in the Gazette so as to come into force – and what it will contain. Judging from other States' provisions, the emphasis will be on permits and registration, but a strong RHW component can be expected in Karnataka's version. Nonetheless, it is very unlikely that an upper limit or ceiling on the amount pumped, or like conditions, is going to be introduced, or that a prior impact assessment will be required, or that a generally strict attitude to the granting of pumping rights will be expressed.

¹²³⁰ This can be compared with the Government Order stipulating 250 m between a private irrigation well and a public drinking water source, as disputed in *Venkatagiriappa* 1999 (4) Kar LJ 482.

¹²³¹ The authority must be “*satisfied* that any existing well in area of over exploited watershed is *adversely* affecting” the public source, “on the advice of” Department of Mines and Geology (Sec 8) (emphasis added). Onus of proof lies with the Deputy Commissioner.

¹²³² A. Kumar; Prabhu. No further information has been found on the Bill.

¹²³³ “All users of groundwater in the State shall within one hundred and twenty days from the date of constitution of the Authority, apply, to be registered with the Authority as a user of groundwater in the State and for grant of certificate of registration” (Sec 9). It has later been explained that this does not include consumers with or below 1.5 horsepower pumps on open wells and with or below 3 horsepower pumps on borewells.

The drafted Act takes a wider grip than the existing Groundwater Act. High officials in the Department of Mines and Geology have not been enthusiastic, though, knowing the various ways in which well owners tend to tamper with irrigation pump meters and refuse to adhere to binding regulations.¹²³⁴ As the watersheds in the Bangalore area have been declared over-exploited, there is a general requirement for obtaining permission under Sec 7 of the existing Groundwater Act prior to any sinking of wells. The Act does not appear to be well known, at least in the urban environment, maybe because it comes under the Department of Rural Development and Panchayat Raj. It nevertheless seems to have been implemented to prohibit wells drilled for hotels and other commercial purposes by the new international airport in Bangalore.

In Hohfeld's terminology, we can explain the situation as implying that Karnataka State has the privilege of introducing legislation of this kind, correlating to a duty for prospective well-drillers to apply for a permit. Whether the executive can and wants to implement the imposed duty (i.e., prioritise enforcement) is another question. Apart from the obvious problem of bribes and other kinds of corruption, the issue is very sensitive. Enforcing the provisions of the existing Groundwater Act, which empowers the authority to prohibit extraction of groundwater from existing wells during the dry season (Sec 8), would most probably involve high political costs.

The Central Ground Water Authority (CGWA), set up in 1996 under the Environment (Protection) Act (Sec 3(3)), has a certain responsibility for India's groundwater resources despite 'water' being a State subject. The Authority has regional offices, such as the one in Bangalore with the States of Karnataka and Goa within its jurisdiction.

The tasks of the CGWA include monitoring, control, management and development and it is mandated to issue necessary regulatory directions (Sec 5), such as to notify areas that in terms of water extraction are 'critical', 'semi-critical', 'severely critical', or 'over-exploited' (formerly called 'grey' or 'black'). Withdrawal of groundwater by industries or projects in some 1,600 such areas throughout the whole of India is regulated by the Authority. Construction of 'new groundwater structures' such as tubewells in these areas is prohibited or needs special permission (a No Objection Certificate, NOC). This can only be granted for drinking and domestic purposes.

In 2006, directions were issued to some States, including Karnataka, to adopt artificial recharge of groundwater and to promote rainwater harvesting to ensure augmentation of depleting groundwater resources. The CGWA has empowered administrative heads in the districts concerned to seal illegal tubewells, seize drilling equipment, and disconnect electricity supply to illegal wells. Pursuant to the applicable provisions, Bangalore Urban District has been notified as over-exploited.

¹²³⁴ Personal communication, Additional Director of the Department of Mines and Geology, March 14, 2006.

4 Concluding remarks

Both Roman maxims and the English doctrine continue to influence India's property law. The existing codification – the Easements Act – is not particularly clearly worded. By comparing these formulations, references to *publici juris* and the English court decisions in the few High Court cases with the original sources and their history, we can draw conclusions about the legislator's intentions and about the ideas that once influenced the Indian judiciary. However, the rules on property rights in groundwater have not been put to the test since *Basavana*.

Considering the rapid industrialisation that India has gone through since Independence, this is surprising. Why have no relevant disputes reached the courts for adjudication during modern time? Some reasons for this appear. First, it was shown in this chapter that the misconceptions in the field are several, including the often-reiterated beliefs that groundwater 'is' a chattel and an easement. Without doubt, this has influenced the understanding of property rights in water and the perceptions regarding possible reforms, for instance when the Planning Commission's Expert Group reviewed groundwater and ownership in 2006-2007.¹²³⁵

Secondly, the saying that a landlord is a water lord has a firm hold. As regards groundwater, it corresponds with the main rule of valid, positive law. Accordingly, there is an unlimited formal right to all the water that can be drawn from underground, though in some notified areas of some States the landowner will have to apply for a permit before a new well is sunk, etc. It is not definitely known whether there is any widespread awareness about the groundwater acts in force in the States mentioned, or whether the provisions are even implemented by the executive. My general impression from topic-related conferences, workshops, scientific articles, mass-media and department officials in India is that there was knowledge of the Model Bill's existence, and that at least many academicians know that some States have their own legislation. Landowners, though, are seemingly less aware about the legislation applicable to them. From discussions, interviews and observations in the Bangalore area, it seems clear that information is spread mainly by word of mouth, within villages and families, between neighbours, via *Panchayat* leaders, and so on. There may be vague and general knowledge that it is prohibited to sink wells or to irrigate with groundwater but as long as no official person (or PhD student with a camera¹²³⁶) is around, wells are continuously being drilled both in the city and in peri-urban and rural areas. Their purpose is mainly to provide drinking water, but water is also drawn for construction.

Some minor social control is exercised in the absence of authorities: it was discovered that urban dwellers are keeping an eye on neighbours pumping and selling their groundwater. The discontent expressed regarding this practice related to the

¹²³⁵ Planning Commission 2007b; personal communication with Convenor of the Expert Group. February 9, 2006.

¹²³⁶ On some occasions, I was chased away by people connected to wells being drilled or from which groundwater was sold. Without doubt, these people were aware that their business was unwanted by social standards, maybe even by legal ones.

overdraft situation and the seriousness in falling water tables, both well-known problems in Bangalore. Some irritation also had to do with the increased traffic from large vehicles driving back and forth, and the noise from pumping motors and engines. People knew which houses had tubewells and how often tankers came to fill up from these, although they might not know exactly how much the seller would charge. But no-one appeared willing to confront a landowner pumping large amounts of the precious groundwater and making a profit from it. I interpret this as a joint moral condemnation of those selling groundwater, lessened though by the belief that the water in any case belonged to the seller. The social control did not therefore transform to actual sanctions against those breaking the moral (possibly also legal) rules. The punishment seemed mainly to take the form of gossip, too mild a castigation to be effective as a deterrent.

The *cuius est* maxim and the English doctrine were imposed on the Indian legal system in the late 1800s, without much discussion as to how suitable they would be in a country with a different climate, with different bedrock, different history of landownership and feudal patterns, etc. It became part of the central regulation of land, established by the Crown with its hegemonic power over India's natural resources. The English, who brought in the rules, had an obvious interest in conformity between Indian law and English law. Ever since, the legal picture has remained essentially intact, not questioned as such. The rights regime of landowners and farmers is now seen as too politically sensitive to reform.

One exception is the *Basavana* case from the Madras High Court. In 1931, thus during the *raj*, the (Indian) judges took an independent stand and concluded that it was unreasonable to apply the English doctrine to certain conditions typical for India: experience showed that saturated sandy riverbeds tend to carry water during the many months between the monsoons. There was hence little or no insecurity in predicting the flow of sub-surface water despite its 'invisible' character. Therefore the Court had no reason to uphold the doctrine on percolating groundwater. Instead, the main rule applied: riparian rights to water running in a defined channel.

Had the case been adjudged by the Supreme Court and thereby been binding on all Indian courts, some aspects of the law would stand clear, at least in regard to water in the saturated zone of a river during the dry season. Appropriation of this water through pumping would amount to trespassing on the landowner's (riparian) rights – an actionable infringement.

It can safely be said that under ordinary circumstances, though, percolating groundwater – in undefined and unknown channels – is not subject to private ownership in India but almost certainly to property rights in the form of usufruct. There is thus a right to use and enjoy it.

California rejected the English rule, seeing that it was not suitable for determining disputes under Californian conditions. On the phenomenon of import from foreign law, Hodgson notes that

“[h]istorically, much of the focus of water law, and thus conceptions of water rights, has been based on *rights to abstract* and use water from streams and rivers,

more specifically from the abundant and perennial streams and rivers of Europe. This... has had, and indeed continues to have, implications for the export of *European notions* of water rights to countries with vastly *different climatic and hydrological conditions*” (emphasis added).¹²³⁷

The English rule was made part of Indian law by way of colonial imposition, and it is obvious that Sec 7, Illustration g of the Easements Act was adopted but not adapted to the different and varying conditions of the Indian sub-continent. It is time to overhaul it somewhat and replace it with a flexible rule better attuned to contemporary needs. This cannot be achieved through judicial creativity in the courtroom; a legislative reform is imperative. A 150-year-old principle of English common law, now tacitly upheld, needs to be buried just as it has been in its country of origin and in other common-law jurisdictions.

However, the Easements Act is not to be amended in the foreseeable future. The Planning Commission expressed its unwillingness in this regard when commissioning an Expert Group to review groundwater and ownership.¹²³⁸

By comparison with the U.S.A., where doctrines on riparian rights, prior appropriation, public trust, etc. apply, strict statutory law confine the landowners’ rights to pump and abstract water. Authorisation is required from the state in the form of a permit. Existing rights are curbed when the situation so demands. Joseph Sax’s conclusions on the legality of water rights are that they

“have *less* protection [against state regulation] than most other property rights for several reasons...: (a) because their existence may intrude on a public common, they are subject to several original *public prior claims*, such as the navigational servitude and the *public trust*, and to laws protecting commons, such as *water pollution laws*; (b) their original definition, limited to *beneficial and non-wasteful* uses, imposes limits beyond those that constrain most property rights; (c) insofar as water rights (unlike most other property rights) are *granted* by permit, they are subject to constraints articulated in the permits” (emphasis added).¹²³⁹

In other words, the fact that property rights exist in law cannot constrain a highly pertinent need for change, and we must move towards a fundamentally different water strategy. The balancing of reasons for having safe rights in property must favour resource preservation, long-term allocation and the general interest of the public. Lines of argument similar to Sax’s are of interest also to contexts such as the Indian. From the legal perspective, property enjoys far-reaching protection against takings (expropriation) by the state, save for the possibility of reasonable compensation. The right to property (including peaceful enjoyment of one’s possessions) is protected as a human right in numerous constitutions. The right, however, is usually a qualified right: under certain circumstances it is lawful for the state to interfere with a person’s property.¹²⁴⁰

¹²³⁷ Hodgson p. 14.

¹²³⁸ Personal communication with Convenor of the Expert Group, February 9, 2006.

¹²³⁹ Sax 1990, p. 260.

¹²⁴⁰ *Cf.*, for instance, Art 1, Protocol 1 of the *European Convention of Human Rights*. According to the

At the same time, some of the existing rules on water are not being upheld. As a consequence of water being perceived as *publici juris* and *res commune* – property of the public – a government cannot sell the ‘ownership’ of water or sublet parts of a river to a private party. This would require that the right of ownership were vested in the government, or permission from the property holder. Even in the case of legitimate representation by the public, the authority to transfer control over national waters to private interests can be debated.¹²⁴¹ Yet this happens regularly in India – both stretches of rivers and groundwater resources are practically sold by governments without proper prior assessment of the consequences.

Since the end of 2003, the Kerala Groundwater (Control and Regulation) Act, 2002 has been in force. In notified areas, a permit is required for sinking new wells and for converting existing ones into ‘pumping wells’. The Plachimada case nonetheless has its equivalents, albeit not yet in the courtroom. Many similar situations have been reported, not only from India, and they represent grave tensions between poor, landless people and often also subsistence farmers on the one hand and factories and groundwater-pumping landowners on the other. In the case of a beverage bottling plant located in an area with (irregular) scarcity, it will without doubt seem like mockery of the poor that the little water available is being pumped and transported far away while very little of the benefit – but most of the environmental and humanitarian damage – remains in the locale indefinitely.

This leads us to the third dimension, ‘water rights’, in India and Bangalore. As shown in Chapter VII, the concept can in itself be understood differently. Of large importance in relation to the Bangaloreans’ human right to water is how the Kaveri dispute can be regulated: what water rights apply today and what is the scope for reallocation of the share in the river’s water.

American Constitution, compensation is due on two grounds: where there is a ‘physical invasion’, i.e., when the government appropriates to itself some part of an owner’s property, and where the effect of the regulation, though its purpose is valid, so greatly diminishes the value of the property that it is no longer economically viable, Sax 1990, pp. 262f.

¹²⁴¹ Cf. Hilderling, p. 97.

Chapter X

Water rights matter

1 Mounting pressure and competition

1.1 Properties lost, priorities lost

“Drinking water gets precedence over irrigation. However, at times looking at the wasteful use of water by people in urban centres like Jaipur one gets the feeling that they do not deserve it at all”.¹²⁴²

The words come from *Rajendra Singh* who has successfully mobilised village communities in the State of Rajasthan (situated in the Thar Desert) to rejuvenate tanks by rainwater harvesting. The statement mirrors some of the tension prevalent between the need for drinking water in the city and the need for irrigation in the non-city environment’s food and fibre production. This sometimes fierce competition is the reality in many more instances than those of Jaipur and Bangalore: much of the water utilised in Indian towns and cities is transferred from the rural hinterland – from sources such as the Kaveri River, from wells owned by the municipality or the public supplier and from wells owned privately.

Rajendra Singh continues by referring to both water rights and natural law:

“The *natural law* says that those who live in the vicinity of the source of water are its rightful claimants... It is time that the policy makers decide on the *yet unsettled*

¹²⁴² Anonymous 2005. Jaipur is the capital of the State of Rajasthan.

aspects of *water rights* like ‘whose water’, priority areas for its use, the quantum for irrigation and similar factors” (emphasis added).¹²⁴³

This statement shows a perception of ‘natural law’ as giving claim-rights to all those living by a body of (surface) water. The perception deviates from the legal understanding of a ‘riparian right’, but it seems widespread among farmers, scholars and debaters in India. The misconception – or parallel conception – of the pertaining water rights is one reason for the discrepancy between the state authorities, presumably applying formal law, and the subjects of the same law.

Is Singh then correct in requesting that matters of ‘whose water?’, priorities, etc., be settled, or can they be considered sufficiently regulated? In terms of *priorities*, the National Water Policy is clear; but it is neither detailed nor binding and is therefore not suited to more complex situations of rights over water. The Policy is also silent on the ‘wasteful use of water by people in urban centres’ and like situations concerning competition. As shown above, the Supreme Court has reached a few decisions on priorities between uses. It has lucidly laid down that water for drinking is prioritised as a right. The Court’s perception of the human right to water can be seen as reflecting everyone’s natural right to survival and well-being. Although statutory law is missing, it is thus clear that the question of priorities has been given an answer.

The question of ‘whose water’ is important for landowners in two situations. First, in relation to the landowners who pump and sell ‘their’ groundwater or who make an agreement with someone else who abstracts the water for a settled price. This practice fills a demand in the industrial sector, in agriculture, and for domestic purposes in the cities. Many scholars and policy-makers discuss this aspect as part of the water-rights discourse, and we saw in the previous chapter how property law provides for an unlimited right to abstract groundwater, save for restrictions – permit requirements – recently laid down in law.

There is at the same time a perception among other landowners, but maybe most of all among landless villagers, that excessive pumping from the aquifers is morally wrong and ecologically/hydrologically unsustainable. *S. Janakarajan et al.* tell of how the Water Board of Chennai, severely water-stressed, has pumped and purchased water from peri-urban areas with rich aquifers (‘well-fields’) since 1965. This has damaged local agriculture and thereby threatened livelihood opportunities, aquifers have become saline due to seawater intrusion, and droughts occur. Over the years, the conflicts between villagers in the area, the Chennai Water Board and the city have intensified.¹²⁴⁴ Legislation is in place to protect groundwater and secure drinking water supply, legislation that serves the Chennai Water Board but also local domestic water purposes at the expense of agriculture.¹²⁴⁵ Apart from the public Water Board, numerous private operators in these peri-urban areas pump the aquifer

¹²⁴³ *Ibid.*

¹²⁴⁴ Janakarajan *et al.*, pp. 54f.

¹²⁴⁵ Chennai Metropolitan Water Supply and Sewerage Act, 1978; Chennai Metropolitan Area Groundwater (Regulation) Act, 1987.

fers for the bottled-water market and for transport of bulk water with tankers to the city and elsewhere.¹²⁴⁶ Though the authorities thus take measures to control the drinking water situation as the National Water Policy and several Supreme Court cases prescribe, demand is always greater than supply.

Secondly, the question of ‘whose’ water is relevant in disputes over water in the rural setting, where (predominantly) farmers are perceived to have a claim against the Government. This aspect is thus interlinked with that of the ‘quantum for irrigation’, as regulated State-wise in Water Cess Acts, Irrigation Acts and the like. For most man-made canal systems for irrigation from surface-water sources, Rules of Regulation have been issued. These pertain to such things as allocation of water to the head-reach in relation to the tail-end of the canal system, authorisation of paddy cultivation during specific seasons, and the type and number of crops the farmer is entitled to grow in a year. Government Orders are time and again issued with the effect of closing canals and sluices for the benefit of water flow in the tank system.¹²⁴⁷

Many farmers are averse to these rules. They are generally seen as imposed illegitimately from above – by the state, by the English rulers before it, both with little or no insight into local contexts.¹²⁴⁸ The rigidity of the bureaucracy, seeking to control each village’s irrigation pattern, is obvious. *K.V. Raju* describes how

“[i]n the operation of these rules, managers have to reckon with, and adjust, allocations in the light of variations in rainfall and water availability in the system between and within seasons, and from year to year. Most systems, therefore, give considerable discretion to their managers to decide allocations and scheduling on the basis of actual rainfall... This flexibility does not, however, always work in a manner consistent with the authorized entitlements and their underlying rationale”.¹²⁴⁹

Again, we find a clash between a description of how water management and allocation decisions are carried out in reality on the one hand, and ‘authorized entitlements’ and ‘their underlying rationale’ on the other. Several Indian States have now enacted legislation on Water Users Associations involving those farmers who use water from a so-called Government source, and thereby ‘turn over’ the regulatory situation under which major, medium, and minor irrigation systems are controlled by the States’ Public Works Departments, Departments of Agriculture, Irrigation Departments and Command Area Development Authorities, as well as the Collec-

¹²⁴⁶ Janakarajan *et al.*, pp. 55ff. These actors ought to apply for permissions prior to their ground-water pumping, but it is unclear whether they have even handed in applications or operate illegally.

¹²⁴⁷ For instance, the Government Order No. FEE 215 ENV 2000, creating a Conservation Zone covering the entire T.G. Halli reservoir catchment for the benefit of the Water Board’s drinking water distribution.

¹²⁴⁸ Much of the irrigation systems were planned out as parts of a larger whole, put under the management of a central District Collector. The decisions on allocation of water have traditionally been in this officer’s hands.

¹²⁴⁹ Raju, pp. 177f.

tors appointed for each District.¹²⁵⁰ The aim is to create more flexibility by transferring some responsibilities so that the farmers can balance the water needs between themselves.

1.2 Water Users' Associations

The legislative Acts in force for the purpose of Water Users Associations are mainly targeted to landowners, but they stipulate representation also of farmers who do not own land and sometimes also of other interests than the surface-water irrigators, such as the washermen community and *dalits* who may depend on the right to fish in tanks. In some Acts, the definition of 'user' thus also includes others than those irrigating their fields from Government tanks, canals, distributories, and other works constructed under the command area schemes.

The tasks that the Water Users' Associations are charged with relate to planning, O&M of tanks, canals, reservoirs, sluices, and the like. The associations are also authorised to regulate the use of water according to an agreed rotation schedule, to regulate disputes, monitor water flows, and so on. This authorisation to take certain kinds of decision – supposedly after negotiation among those concerned – essentially amounts to the WUAs' 'water right'.

Upadhyay has criticised the enabling laws enacted on WUAs in seven States on the grounds of the (lack of) rights endowed by the state.¹²⁵¹ Only two States have included any formulations relating to WUAs' rights.¹²⁵² These two have, for instance, prescribed a right to receive water in bulk from the Irrigation Department for distribution among the water users on agreed terms of equity and social justice, and also a right to receive the water according to an approved time schedule. Upadhyay notes that these Rules do not lay down the remedies should the right to receive water in bulk from the Irrigation Department not be honoured. Another right laid down is to have full freedom to grow any crop other than those expressly prohibited by law, and to adjust crop areas within the total for which water is allocated without causing injury to neighbouring lands.¹²⁵³

There is also an enumeration of rights such as the right to participate in the planning and designing of irrigation systems (Upadhyay writes that these are “not

¹²⁵⁰ India is claimed to have the largest irrigation infrastructure in the world, consisting of dams, reservoirs, and man-made canals. Some of them are donor-driven. Publicly funded O&M is too costly to uphold and many structures are therefore in a state of decay – another reason for turning them over to the farmers themselves. There is a very rich source of research and literature on the subject of the WUAs and World Bank's 'Participatory Irrigation Management' reform programme.

¹²⁵¹ Upadhyay 2006.

¹²⁵² Apart from Upadhyay's list, there is the Maharashtra Water Resources Regulatory Authority Act, 2005, which provides for 'entitlements', meaning “any authorisation by any River Basin Agency to *use* the water for the purposes of this Act” (Sec 2(1(a))).

¹²⁵³ Upadhyay 2006, p. 5; the Andhra Pradesh Farmers' Management of Irrigation Systems Rules, 2003 and the Chhattisgarh *Sinchai Prabandhan Me Krishkon Ki Bhagidari Niyam*, 2006.

rights in the strict sense of the term”).¹²⁵⁴ Lastly, there are individual rights in the Acts mentioned, including rights to receive water as per specified quota for use, and the right to sell or transfer one’s water share to any other water user within the operational area of the water users’ association, with the association’s permission and without affecting the rights of the other members.¹²⁵⁵ *David Mosse* notes, based on longitudinal anthropological field studies as well as detailed archival investigations, that the government’s rights to water are unchallenged, while their obligations to deliver water to WUAs are rarely legally binding – the state may in fact have lost very little of its control of irrigation resources.¹²⁵⁶

An increasing number of farmers irrigate their fields with groundwater from their own lands, and up to three-quarters of all farmers still practise rainfed farming, thus without irrigation. Hence these farmers do not come under the WUAs.

Similar to the WUAs, but not regulated under law,¹²⁵⁷ other organisations engage in planning, administering and managing schemes for rejuvenating percolation tanks and distributing (rain)water – such as the *Pani Panchayats* (*pani* is Hindi for water). One successful case is (was) that initiated by *Vilasrao Salunkhe* in Pune,¹²⁵⁸ where water was treated as a common property resource. All villagers, including women and the landless, were afforded equal rights and access to the water, although it was chiefly allocated for irrigation purposes. The rights were not tied to land ownership, meaning that if land was sold, the water rights reverted to the farmers’ collective. All beneficiaries of the *Pani Panchayat* had to bear 20 percent of the cost of the scheme. The right to water was allocated on the basis of number of family members, rather than in proportion to the land holding.¹²⁵⁹

The key components of the above example are that communal, collective and equitable rights were created instead of individual – a major contrast to how the Water Users’ Associations are arranged – together with efforts to build consensus. Clear rules were set up internally, rules that can be compared to social norms applying among those concerned in the local setting.

Both in this scheme and in the WUAs, priorities are set for the purpose of irrigation. However, the ‘rights’ granted, the decision-making powers and the ambitions are fairly limited. What can be achieved is a (feeling of) greater influence and participation among irrigators who depend on the same source of surface water.

¹²⁵⁴ *Ibid*, p. 6.

¹²⁵⁵ *Ibid*, p. 7.

¹²⁵⁶ Mosse, pp. 267f.

¹²⁵⁷ The *Pani Panchayats* regulated under the Orissa Act, 2002, are WUAs.

¹²⁵⁸ Vilasrao Salunkhe died in 2002 and it is uncertain whether the mentioned *Pani Panchayat* has continued after this.

¹²⁵⁹ Rai.

2 Legal rights, practices, social norms

2.1 *Water rights de facto and legal pluralism*

The understanding of local ‘water rights’ in the Indian context is usually related to user rights in traditional water harvesting (irrigation) systems, rather than to permits granted by a state authority or the doctrine of riparian rights. Numerous studies have been conducted on local management of tanks and man-made channels, sluices, etc., and how villagers deal with O&M and monitoring and regulate how the water is to be allocated and shared.¹²⁶⁰ Rules exist to some degree, and disputes are mostly settled in informal ways, i.e. without litigation. The water rights talked about among scholars may be orally transmitted rather than written and recorded, and where strong informal norms apply, the formal statutory law may not be followed. It seems that these rights have in some cases been earned by the right-holder investing time and labour. Participation is often described as open to everyone in the village, and the (surface) water is described as a common pool resource. Larger variances prevail, though, depending on geography, climate and ecology, socioeconomic and cultural factors related to land ownership, historical path and so on. Yet some common features emerge.

Mosse has explained in historical-political terms how the ‘rule of water’ is linked with its social role in the series that make up the systems of rural tanks. One point of departure for understanding these links is fundamental:

“The impounding of water in reservoirs creates a shared resource requiring co-operation within and between villages. As a common pool resource whose joint use is subtractive, irrigation water *requires social arrangements* for distribution and rationing in times of shortage, as well as for *higher-order regulation of water rights* and dispute arbitration. Irrigation systems also require continuous investment (of time and money) in maintenance and repair... While the decentralized nature of the network of channels and lakes... allows an autonomy for village-level operation, wider hydrological and system maintenance interdependencies require integration at higher political levels” (emphasis added).¹²⁶¹

An interdependent hydrological system of tanks requires some integration also in terms of regulation and the genesis of rights at local level. Many studies cover water rights at village level prior to and during colonial times. According to the most influential discourse, water rights were established and applicable among people until the English colonisers and thereafter the Indian state “usurped the rights of individuals and communities and replaced them by its own management policies”.¹²⁶² Mosse has deconstructed this discourse into pieces of idealised narrative, dichotomies and antipathy between community and state, and observed that though holding much truth, “there is also much that needs to be qualified or challenged”. This

¹²⁶⁰ The number of scholars is vast and I refrain from giving names here.

¹²⁶¹ Mosse, p. 4.

¹²⁶² Agarwal *et al.*, p. 401.

is, not least, because “traditional village water management systems prove extremely elusive”.¹²⁶³ Further, the traditional systems are seldom described in sufficient detail by the researchers to allow conclusions about the water rights applicable.

There are also reasons to doubt these traditional systems in respect of inclusion/exclusion. *Anil Agarwal et al.* write that “[t]he most striking feature of traditional water harvesting systems is that the people had the right to construct and manage them... The community, in *many cases*, ensured *equal* access to water to *all* its members, on a needs basis” (emphasis added).¹²⁶⁴ However, nothing suggests that the poor, lower-caste, and women in the villages were, or have later on been, granted rights in the water-management structures described. For instance, the water-rights system in the Spiti area of Himachal Pradesh is often referred to as an example of a traditional, well-functioning system. Accounts of it nevertheless indicate that the rights are held exclusively by members of the *bada gbars* group and are inherited by the eldest sons only.¹²⁶⁵ Clearly, these rights are not to be characterised as community rights, but belong to certain families in a stringent social hierarchy.

Even at present, social control of access to tank water “does not mean that these systems are sustained by a community moral ethic”.¹²⁶⁶ Rather, the social control exercised serves private interests and unequal relations of dominance. “Water use rules cannot be viewed as simple expressions of community morality... or for that matter as a consensual equilibrium outcome of self-interested individual actors... Water use rules invariably express the interests of the authority which backs them”, Mosse writes.¹²⁶⁷ The rank of locally dominant kin or caste groups cannot be thought away from the Indian context.

From experience in his study areas Mosse also undermines the whole idea of the irrigation systems being governed by a set of allocation rules. He mentions plenty of instances of rule infringement by night, neglect of obligations, ‘men of influence’ deviating from publicly expressed codes and norms without any sanctions, knowledge of powerful rule-breakers, second-order strategies to regularise action which does not conform to rules, calculative, self-interested behaviour, even cheating, etc. Officially, rules are always followed: those with the necessary skills, power or authority manage to break them and yet demonstrate conformity and thereby win over group support for private causes – compliance may thus even be self-fulfilling. Typically, socially weaker groups and women lack the capacity for manipulation of community rules, though.¹²⁶⁸

It is a rather complex and bleak picture that is painted, where not only formal rights and obligations are subject to non-adherence, but even local rules are not

¹²⁶³ Mosse, p. 11.

¹²⁶⁴ Agarwal *et al.* in Agarwal & Narain, p. 401.

¹²⁶⁵ D’Souza, p. 34.

¹²⁶⁶ Mosse, p. 160.

¹²⁶⁷ Mosse, pp. 160f.

¹²⁶⁸ *Ibid.*, pp. 161ff, 200f.

considered binding. The gain of non-compliance is simply considered higher for individuals who manage to take a larger chunk from the common property resource – a classical case of free-riding. Mosse’s picture challenges the simplified explanations of there being a multiple order of water rights, of legal pluralism prevailing, and of local *de facto* water rights being applied rather than the formal *de jure* rights of the state.

The development and ‘issuing’ of local water rights risks suffering from prevailing power-inequalities, and thus lacking wide legitimacy. Some studies indicate that rather than being a factor of rights in land and in (ground) water, it is the means of production that determines whether someone has access to water.¹²⁶⁹ Overall, this indicates that instead of *de facto* rights there are *de facto* no-rights to access water in some cases, for some groups of people.

It was shown in Chapter VII how in one discourse water rights are claimed to exist *de facto*, parallelly with *de jure* rights. This discourse does not play the same role in India, maybe because canal irrigation systems are so closely regulated. The few authors using the term for the Indian context invariably link the discussion of water rights with property rights and ownership issues. For instance, it has been said that

“[c]reation of tradable rights over water for establishing a water market... requires reformation or modification in the existing property rights structure in water. Here the *distinction between de jure and de facto property rights* becomes important. *De jure* rights are usually granted by the state and are enforced through its agencies like government. Private property serves the best example of such *de jure* rights. However, in many cases of *common pool resources*, the *users enforce* property rights over the resource and develop what is termed as *de facto* property rights” (emphasis added).¹²⁷⁰

This statement can be read as relating to how farmers sidestep the official irrigation regime to set up their own allocation rules. These are results of negotiations and/or are based on established local practice. The agreements, ‘termed as *de facto* property rights’, will apply within the group in relation to the ‘common pool resource’ – surface water in this case – for an agreed time. However, the fact that these *de facto* rights (and obligations) are enforced among users does not necessarily mean that they are applied equally among the right-holders. Hegemonic relationships can exist due to caste and community membership as well as on geographical location in the landscape.

Legally valid *de jure* rights are not necessarily established *by* the state, as long as certain criteria are met. Next, we will look more closely at customary law in the Indian system.

¹²⁶⁹ Cf. Prakash & Ballabh’s study of groundwater rights.

¹²⁷⁰ Jyotishi & Rout, p. 149.

2.2 Customary law in the Indian interpretation

In relation to talk of local water rights, the difference between legally valid customary law and local/social customary practices should also be mentioned. In Chapter VII a distinction was made between the formal ‘customary law’ and ‘legal customs’, and what can be called ‘customary practices’, ‘local customs’ or the like. The former are described by S.R. Myneni: “In the early days customs were accepted as law-constitutive because, in the absence of other guidance, judges were glad to avail themselves of them and remain potentially so today, but the likelihood of its operation is now very small”. Myneni lists the criteria that courts of law raise to accept local and general customs as valid customary law: reasonable, of immemorial antiquity, having continuity, capable of peaceable enjoyment, not inconsistent with statute, and observed as of right.¹²⁷¹ In short, the criteria for a legal custom require that it is ancient, certain and reasonable.

The Indian Supreme Court has stated that “a custom is a usage by virtue of which a class of persons belonging to a *defined section* in a locality are entitled to exercise *specific* rights against *certain* other persons or property in the *same locality*... [T]o be valid, a custom must be *ancient, certain and reasonable*, and [if] in derogation of the general rules of law must be *construed strictly*” (emphasis added).¹²⁷² It has further made it clear that ‘a party relying on a custom is obliged to establish it by clear and unambiguous evidence... For a custom to have a colour of rule of law, it is necessary for the party claiming it to plead and thereafter prove that such custom is ancient, certain and reasonable’.¹²⁷³ Upadhyay has noted that “the recognition of customs by the court itself is a difficult enterprise and this also partly explains why customs in the modern world are increasingly not a very important source of law”. Determining whether a custom is ancient, certain and reasonable (enough) to amount to customary law is, therefore, virtually a matter of uncontrolled discretion of the judges.

It is clear from a case on irrigation tanks decided in 2002 that customs can also be a rather technical procedural matter.¹²⁷⁴ The Supreme Court concluded that the right in question was not a custom but in the nature of a contract between certain parties, entered into between them at a certain point of time, and relating to certain property. The right-holder in the case was a *dalit* community, fishermen by tradition, and the right concerned their catching of fish from private, artificial irrigation tanks. Admittedly, the appellants had enjoyed the fishing right uninterrupted for over a hundred years, and written records in the form of *wazib-ul-arz* (village customs) had been drawn up on three occasions. However, the suit was a sequel to

¹²⁷¹ Myneni, p. 145, also pointing to the distinction between legal customs and ‘conventional customs’, or usages, both of which have sanctions connected to them.

¹²⁷² *Bibar v. S.G. Bose* 1968 (1) SCR 313.

¹²⁷³ 2001 AIR (SC) 938, cited in Upadhyay 2003.

¹²⁷⁴ *Tulsi Ram and Ors. v. Mathura Sagar Pan Tatha Krisbi and Anr. WITH The Proprietors of Mathura Sagar Bareja and Anr. v. Tulsiram and Ors.* AIR 2003 SC 243 = (2003) 1 SCC 478 = 2003 (7) SCALE 7.

one commenced in 1954, and during the fifty years of suits, appeals, amended defences, etc., the fishermen's plea had been (unintentionally?) restricted in a way which made it procedurally impossible for the Supreme Court to acknowledge the *wazib-ul-arz*. The Court eventually relied on what the High Court had held – that a right by way of custom

“cannot also be considered and recognised, for such a right would be *unreasonable, being destructive of the subject matter itself if exercised*, and if could be exercised as permitted and to that extent. If an indefinite body of person, and if a *large number of persons* were authorised to exercise such a right and if there was no restriction of whatever kind, then a customary right which could produce such a result must be deemed to be unreasonable, and therefore, unenforceable in a court of law” (*sic*, emphasis added).¹²⁷⁵

This quotation should be compared with what the Supreme Court had earlier laid down: “[A] claim in the nature of a profit-à-prendre operating in favour of an indeterminate class of persons and arising out of a local custom may be held enforceable only if it satisfies the tests of a valid custom”.¹²⁷⁶ The present Court applied the criteria for determining whether a valid custom was at hand, and simultaneously fell back both on previous precedents and English common law. The emphasis was, eventually, put on the aspect of reasonability, taking a rather narrow approach to this.

It seems as if the Court(s) pointed to the finiteness of natural resources and the need, therefore, for sustainable handling of them. Fishing in itself means taking out, subtracting in a final way, a part of the ecological system and can lead to deterioration of it. In the long run, the ‘subject matter’ – the right to fish – may be at stake if over-fishing is allowed. If done on large scale, by an ‘indefinite body of persons’, this risk is even higher. Hence, such a right would be unreasonable, and thus, a customary right cannot be allowed. We can, on the other hand, interpret the case about the fishing community so that the private property-holders’ right to non-interference was upheld at the expense of the lower caste.¹²⁷⁷

It has been shown that rights in regard to forests and wastelands were acknowledged as customary law in various parts of India if they were inscribed in various settlement records or obtained by license or grant when the colonial administrators appropriated these rights (1870s).¹²⁷⁸ Customary rights to, for instance, natural irri-

¹²⁷⁵ *Ibid.*, para 10, quoting the High Court’s judgment, para 64.

¹²⁷⁶ *Bihar v. S.G. Bose* 1968 (1) SCR 313. According to the doctrine of *profit à prendre*, the right to take something out of someone’s soil requires that the thing taken, the so-called subject-matter of a profit, must at the time of taking be susceptible of ownership. According to English common law, this requirement normally excludes water, as water is not capable of being owned (except for if appropriated, confined, or stored in some artificial receptacle).

¹²⁷⁷ Upadhyay, 2003, has made the interpretation from the above case that customs are sources of law only if they are “recorded in statutes or recognised by courts”. There is nothing to suggest that he is correct in this.

¹²⁷⁸ Through the English colonisers’ enactment of legislation during the 1860-70s, a number of natural resources were pronounced to be property of the Crown. Unrecorded rights were rede-

gation tanks were saved from being regulated by the Indian Easements Act when this was enacted in 1882 (*cf.* Sec 2(b)). Such rights withstand and arise unappurtenant to a dominant heritage, and without a fixed period of enjoyment being necessary to establish.¹²⁷⁹ The Easements Act recognises the customary rights which are acquired under two rules: long usage or prescription and local custom, subject to the government's right to regulate the collection, retention and distribution of the water of rivers and streams flowing in natural channels.

Next, the federal government's right to regulate and control rivers will be analysed against the rights and obligations of the State governments in relation to drinking water. We return therefore to the Kaveri dispute, and to the needs of Bangalore.

3 Water rights and the Kaveri

3.1 Bangalore's water resources revisited

Access management is a major challenge for a city such as Bangalore, where the infrastructural upgrading and demand-side strategies always seem to lag behind the rapid growth. The system of tanks – the natural as well as the man-made lakes and reservoirs – should be duly credited when the history of Bangalore's water resources and development is written. As Nair has observed, the city

“survived for nearly two and a half centuries without noticeable physical expansion. Perhaps this has to do with the organization of economic activity in the settlement itself, which for a long period was a node for the collection of surplus from the countryside... The *limited availability of water may have imposed its own limits on the growth* of the city population. No wonder then that the provision of water through a system of tanks became a crucial element of city building throughout the twentieth century” (emphasis added).¹²⁸⁰

Nair's analysis of how the city has been shaped – by among other things ideologies, principles of planning, and law – is still valid. Unanticipated uses of space fashion a city quite different from the one envisaged by planners and technocrats, she holds. An example of this is the GBWAS Project which, to the initial planners' surprise had to be extended to a number of residential layouts and whole new wards not accounted for from the beginning. Apart from the fact that the budgetary and time wise frameworks burst due to this, it was also apparent that the water available was not enough to share if the minimum standard of 135 lpcd was to be met. The Board is already (2008) experiencing a shortfall in the amounts deliverable to its existing customers, estimated to some 235 MLD. And there are still new households

financed as 'alienable privileges' by the Department of Revenue, Agriculture, and Commerce (Forests). Goswami, p. 58; Guha 1996 (1962), cited in Goswami, p. 57.

¹²⁷⁹ The custom must (still) be reasonable and certain, *Parbhavati Devi v. Mabendra Singh* AIR 1981 Pat. 133.

¹²⁸⁰ Nair, pp. 29f.

clamouring for connections, not to mention the impact of a new international airport and hotels in one of the former municipalities.

It is complicated to estimate the recharge of Bangalore's groundwater resources due to the hard-rock conditions and the fact that urban environments have their own conditions. The adoption of refined methods is nevertheless highly pertinent. The city is very widespread and leaking pipes, tanks and lakes that have not yet been encroached upon, public and private RWH structures, and so on, add to the groundwater recharge in a way currently not accounted for. However, although there may be groundwater enough for exploitation yet some time, the quality concerns are grave and deepening. On the other hand, efforts to reduce leakage to 15 percent are announced and if these succeed, they will reportedly represent an amount of water equal to implementing one additional Cauvery Project,¹²⁸¹ or about 500 MLD. Less water unintentionally to aquifers, more in the pipe and, eventually, to the paying consumers, thus?

In Chapters III and VIII it was shown how the practical arrangements for accessing and distributing water concern the planning and execution of schemes for water supply, O&M of physical structures, and financial investment both public and private. The bulk of water needed for the city's survival will continue to be taken from river systems – foremost the Kaveri. The water in those rivers is subject to rights regimes, but not always very secure such. When regulations and orders such as the one from the Cauvery Disputes Tribunal set – and change – the conditions for how much water is available, the planning for allocation and sharing between sectors is affected.

For the city of Bangalore and its Water Board, it is fundamental to be able to make both short and long-term plans based on the availability of raw water and on projections of demographic changes. Plans to pump water over a distance of 400 km from the River Netravati which flows out in the Arabian Sea and is not subject to inter-State water disputes, from the River Hemavathi, the water of which is already claimed by farmers, or the Tunga Bhadra Reservoir, have recently been called off due not least to the very high costs involved.

In AusAID's Water Supply Master Plan drawn up in 2002, it was summarised that a "permanent basis for water allocation and sharing between Karnataka and adjacent States is expected from the Cauvery Water Dispute Tribunal in approximately two years. Meanwhile long term planning of water resources projects within Karnataka is being severely hampered". A critical issue for the Board to resolve would be "the exposure of the Board to conflicts with other users of the Cauvery waters and the available mechanisms for dealing with them". The Board was therefore recommended to "[e]xamine the institutional and legislative provisions needed for the Board to secure its access to the Cauvery waters, particularly the mechanism for controlling irrigation usage during droughts".¹²⁸²

¹²⁸¹ Anonymous 2008f.

¹²⁸² AusAID 2002b.

3.2 Dispute-settling and water rights

The dispute over the River Kaveri should also be discussed in terms of water rights, thereby adding another small- as well as large-scale aspects to this dimension. The dispute and its handling raise a number of questions. The Tribunal ruled in favour of the irrigation interests, and played down the drinking-water needs of Bangalore's present and future population. It decided to go by the boundaries of the watershed, and concluded that one-third of the (then) city of Bangalore lies within the Kaveri basin. Consequently, only the people living in this part of Bangalore would be entitled to water from the river, implying that the Water Board will have to look for other sources of drinking water for those located beyond the watershed. Is this a scientific, equitable, and sustainable approach to understanding rights, entitlements and allocation of a scarce resource? Is this what is meant by Integrated Water Resources Management (IWRM) thinking? Is it in line with India's Water Policy, or with law and morals?

Starting with the first question, is the Tribunal approach scientific, equitable, or sustainable? Hydrologically, the river basin has an outer boundary determined by topography. A ridge divides the city of Bangalore – of which one pull factor has always been its elevated location – so that precipitation falls on either side. For measuring and planning reasons, it makes sense to consider the basic units which the watershed and river basin constitute. Especially regarding a basin that is closed (already over-allocated), the ability to predict water flow and the volumes available is very important.

Individual river basins are not self-contained entities; rather, they are a part of the greater hydrological cycle, and humans have throughout history distorted the accounts by transferring and exporting water in and out of watersheds and basins in numerous ways. The notion of IWRM is essential here because a river-basin perspective necessitates a holistic and interdisciplinary approach, with sustainable development as focal point. 'Integrated' means considering several viewpoints simultaneously and in a coordinated mode. The interconnectedness between humans and nature, land and water, surface and groundwater, sanitation and food production, etc., is pertinent to acknowledge. Management must be seen as a process. Most important here, though, is that IWRM is about equity and involvement in the balancing of competing requirements, not about exclusion. To shut out millions of people in need of drinking water from a source is not compatible with the IWRM theory. The river basin needs IWRM, but IWRM is conceivable without applying a river basin perspective.

In terms of the last set of questions it is evident that although India's inter-State rivers are subject to special legislation for the solving of disputes, the Supreme Court retains its jurisdiction in relation to drinking-water issues. In the case of water being drawn from the Kaveri, the Court could thus admit a petition and rule that water for drinking is prioritised over irrigation, no matter how the river- basin boundary crosses the city's administrative borders. By comparison, in the *Delhi Water Supply* case, the Supreme Court ruled that in competition over water between

two States, one could not be allowed to use water for *non-drinking purposes* (irrigation), where this caused people in the other to remain thirsty:

“The *primary use* to which the water is put *being drinking*, it would be mocking the nature to force the people who live on the bank of a river to remain thirsty... [I]t would be *travesty of justice* if the upper-riparian States were to use its water for *purposes like irrigation*, denying the lower riparian States the benefit of using the water even for quenching the *thirst of its residents*” (emphasis added).¹²⁸³

The reverse geographical situation obtains in the River Kaveri dispute – Karnataka is upstream and is thereby in a different position – and the decision in *Delhi Water Supply* is also for other reasons not directly applicable to this dispute. Nevertheless, the reasoning of Justice Kuldeep Singh established the general principle of priority of water for drinking over non-drinking. It is in line with the 1987 National Water Policy then in force as well as the present Policy of 2002. Both establish priorities for water allocation, to be followed “in the planning and operation of systems” (para 5). Hence, drinking water should take precedence over irrigation, and so forth. Further, they state that “irrigation and multipurpose projects should invariably include a drinking water component, wherever there is no alternative source of drinking water. Drinking water needs of human beings and animals should be the first charge on any available water” (para 8.1). The same priorities are set in the Karnataka Water Policy (Tamil Nadu adopted a State Water Policy in 1994 and drafted an updated version in 2003, which is not yet decided on).

Accordingly, the drinking-water needs of the ever-expanding city of Bangalore, with few other feasible options than to rely on the Kaveri, are to be prioritised over the use of water for irrigation. The Tribunal should have calculated Bangalore’s short-term and long-term needs as its starting point for allocating water, *irrespective of the watershed boundaries*. In these calculations, the national standard for a metropolis could, however, be cut to maybe 100 lpcd as part of the process to enforce demand-side management.

The Karnataka State Government is fully entitled to re-allocate within the State, in that it chooses how much is to be drawn by the Water Board (given its technological capacity) and can increase that part by reducing what is allocated for irrigation by farmers in their own State. As these farmers constitute a fundamental vote bank for the politicians such a decision may be fairly counter-productive, though, and is therefore unlikely. However, this is one of the moves that ought to be implemented to show willingness to compromise and negotiate with the neighbours downstream, to reach a durable agreement.

There is great potential in compelling not only city households but also farmers to demand side-strategies such as drip irrigation and a sustainable variety of crops. As part of this, the difference between food and non-food items needs to be high-

¹²⁸³ 1996 SCC (2) 572 JT. The inhabitants of Delhi live in an almost permanent situation of acute water stress and Haryana has continued to show contempt for the MoU. On the other hand, groundwater is now the dominating source of water for irrigation in Haryana, and problems connected with over-extraction have become a serious threat to the wheat production.

lighted. Growing of the very-water-intensive sugarcane crop should not be considered as food production.¹²⁸⁴ Sugarcane subsidies should therefore be redirected, and the water this crop consumes be allocated to production of nutritional foodstuff.

At present, Karnataka seems not to find orders from the Supreme Court or from the Tribunal legitimate in the case of abstracting water from the Kaveri – the States and water users downstream appear to be the least of Karnataka’s worries. A high-risk political game is being played, but many interests are to be provided for simultaneously and the sanctions are close to nil.¹²⁸⁵

In general, the Kaveri crisis must be seen in the context of deepening agrarian distress in India and the increasing global food security crisis. The farmers are not only an important vote bank in general elections; some groups are also very media-wise, and use the attention given to violent protest marches. Threats of suicides from farmers have been realised at least on one occasion during the Kaveri dispute.

The issue must, however, also be seen in the context of increasing urbanisation, a trend with many facets but indisputably involving a rise in the number of poor in the cities. Leaving aside the Water Board’s inability – or unwillingness – to provide the entire population of its jurisdiction, the amount of water currently pumped from the river does not suffice to provide even the population of the core city of Bangalore with the minimum standard of 135 lpcd. After connecting most of the former municipalities now coming under Greater Bangalore, there will be even less water per capita, not to mention the 110 villages that are rapidly urbanising.

At present, Bangalore’s water users are not voicing their concerns very loudly. Apart from women from slums staging a minor demonstration, and some villages wondering why they are not part of the GBWAS Project, no demands are really being directed at the Water Board. This may change within the near future, though. The groundwater on which so many depend is inevitably decreasing in quantity and quality, and people will be witnessing a further reduction in their access to safe water. Demands on the Board to meet its obligations may grow all the louder, and may be switched to the politicians and legislators. The use of Kaveri water for drinking and other basic needs is to be prioritised by the Government. Though it is generally claimed that the majority of the water goes to irrigation – thus mainly to food production – this share will reasonably have to be reduced in order to meet people’s basic needs and rights in urbanising India.

The Dispute Tribunal and the Supreme Court have together offered a substantial body of directions on the water rights and obligations pertaining to the allocation of the Kaveri. Yet the decisions are constantly being contested and the level of trust in the formal legal system is abysmal among all parties and groups – including the State of Karnataka which does not acknowledge the decision-makers’ legitimacy.

¹²⁸⁴ It lacks nutritional value and contributes to increasing type-2 diabetes and obesity.

¹²⁸⁵ Much research has recently been carried out on transboundary basins, where the river is shared between two or more nations. The hidden dynamics of water conflicts are often explained with the terms ‘hydro-hegemony’ and ‘asymmetric power relations’. Cf. Marc Zeitoun.

4 Concluding remarks

In this chapter, several interpretations of the notion ‘water rights’ have again been investigated: from farmers’ rights based on property in groundwater and on local practice, via regulated rights under WUA legislation, to the Kaveri dispute in terms of Bangalore’s rights vis-à-vis the state’s prerogative to allocate water in the public interest. We can conclude that a ‘water right’ can mean a range of things depending on the context.

Water rights as based on customs and practice in the local setting are discussed mainly within three academic disciplines: law, sociology and anthropology. The major differences may seem to boil down to terminology, but concern fundamentally how society, the human subjects in it and their exercise of power are viewed and explained. The three disciplines measure somewhat different things from different starting points and by using different methodological tools.

One example is the notion of *legal pluralism*. This is more common among sociologists and anthropologists in their attempts to explain law in action than among jurists and lawyers who tend to focus on aspects of law in books. Galanter described the Indian legal system as a dichotomy, comprising official law and local, ‘popular’ law. It was colonial-style and “one in which the official law embodies norms and procedures congenial to the governing classes and remote from attitudes and concerns of its clientele”. This situation, he held, would prevail where there were unresolved tensions between national and local, formal and popular law. In heterogeneous societies, the law “expresses not primarily the aspirations and concerns of the society, but those of the groups that formulate, promulgate and apply the law”. He continued that this sort of gap is probably typical of most large political entities with intensive social differentiation.¹²⁸⁶

Galanter’s characterisation was based on investigations carried out during the 1960s, but is still referred to by scholars both in India and elsewhere. Is it still meaningful to explain the *regulation* of water? Though the country has developed immensely in various ways since Galanter’s studies, there may yet be villages, wards and communities where strong traditions uphold order and practice. For instance, in Bangalore, the metropolis where more than half the population are migrants from other States, the original *Kannadigas* show signs of far-reaching conservatism and State-level nationalism (observable in the legislative efforts to revert the spelling of the city’s name to Bengaluru as well as of road signs in *Kannada* instead of in English; sentiments are not least noticeable in the Kaveri dispute). The law-maker is no longer a colonial ruler but the function is still regarded much with the same suspicious eye by the wo/man in the street – an ‘us-and-them’ situation divides the subjects of the law from the elite legislator. Faith in politicians and members of the legislative assembly (MLAs) is small; many poor people vote not because they believe they can affect decisions via the representative they choose in democratic elections, but to receive remuneration (alcohol, Rs.100, a sari or simply a promise that

¹²⁸⁶ Galanter, p. 34, with references to, i.a., nineteenth century authors.

the public standpost will be opened); many educated people do not even register as voters.

Living in the era of the global village,¹²⁸⁷ the possibilities to understand law in contexts outside one's own jurisdiction are steadily growing and made easier. Comparative investigations are often carried out for academic reasons, but there is also large practical importance in drawing from a range of insights and best practices. Experience can be shared between regulators and law-makers to increase the prospects of enacting effective control instruments for complex social systems and natural resources such as water. Thus, acts of the legislature in one jurisdiction can work as a template also in others, as was partly the case when the Indian Constitution was drafted. Framework directives can be issued at central level, much like the Ground Water Model Bill was aimed to be for the States. The Supreme Court has several times shown its interest in taking influences from foreign concepts and principles, for instance by adopting the Public Trust doctrine. This is dynamic positivism at work.

Pluralism is often used to explain the fact that local people do not always adhere to all details of official law and have created, or stick to, their own – but as long as no systematic order of rules replaces official law we cannot speak of *legal* pluralism. Mosse challenged the picture of local, traditional water rights as applying side-by-side or instead of channel irrigation regulations or the like. From what he saw, there seems to be no equivalent of 'Pasargada law' or 'order without law', as in the cases described by Sousa Santos and Ellickson. Rather, Mosse pointed to individual action, sometimes joint or organised, as well as operations in the dark.

Mosse's results do not tell us that there is *no* order, *no* organisation, *no* rights and obligations – they just explain some of the messiness and power-games applying to Indian irrigation practices and local rule. Little stability and predictability seems to exist, and possibly too little agreement on what rights are recognised and enforceable – enforce-*worthy* – rights.

From my own interviews with female *Panchayat* leaders a couple of years before their villages were incorporated with the city of Bangalore, it seems that women in decision-making roles tend to emphasise not irrigation issues but the functioning of the public wells and thus the facilities for drinking water and other domestic purposes. This is, however, not to say that all of these leaders were particularly law-abiding or aware of the formal rights and obligations applicable under the law regulating the *Panchayat* institution. One lady openly told me that when she was standing for election as *Panchayat* president, she and her husband bribed a contestant to withdraw her candidature. For the coming term, the top post was reserved for a female *dalit* and my informant, fulfilling these requirements, was determined to win. Her behaviour was clearly corrupt, but for a 'good' cause, given that the first thing she did after being elected was to order that a drinking-water well be bored in her part of the village where the *dalits* lived. In her experience, water was probably not

¹²⁸⁷ The metaphor of a 'global village' refers not to a place, but to the fact that Internet and World Wide Web communications simplify the rapid spread of information.

as much a right as a matter of (sometimes unfriendly) co-existence and competition over the resources. She saw her responsibility first and foremost with the other women in the neglected part of the village, and their need to access water.

Despite the absence of a defined system of *de facto* water rules and rights or a recognised customary law, what prevails in India is nonetheless a strong regime of social norms. The stigmata linked to what was formerly called untouchability, and oppression due to caste status, persist especially in rural India although abolished by the Constitution. The problem is expressed essentially as unspoken sub-text¹²⁸⁸ and tacit rules for what different sources (wells, taps, tanks, etc.) are accessible to whom for fetching drinking water. The caste system has more generally been pointed out as crucial in determining access to the means of production and control over resources, institutions, and forms of surplus extraction.¹²⁸⁹

I further perceive the notion of 'legal pluralism' as of little meaning for improving our understanding of the role of rights in regulating water and improving access to it. The conclusion is rather that regardless of legal culture, the fundamental perception of water is one and the same in Roman law (civil-law tradition), common law, Hindu law and Islamic law: as such, it does not belong to anyone as a matter of ownership rights.

In terms of the Kaveri dispute, it is clear that partisan politics in the States of Karnataka, Tamil Nadu and the Centre make the reaching of a mutual solution very difficult. The dispute is likely to persist no matter how well the Tribunal and/or the Supreme Court manage to take all stakeholders' views into account in the most holistic of ways – which is in itself unfeasible. Political bargaining, an increased number of dialogues between representatives of those concerned, and crystal-clear rights and obligations may lead to partial and temporary acceptance of the allocation decisions. A more scientific understanding of the water cycle and when water is 'consumed', and a view of the river basin as a unit for planning but not for exclusion, are two indispensable bases for a new decision. The debate over 'whose' the Kaveri water *is* can probably never be solved, though. Not because it is a riddle, but because people have feelings and perceptions, and because the Kaveri is a lifeline for subsistence and basic needs.

Where it is explained in both legally-binding words and in policy that people's drinking water needs are to be prioritised, this human right to water stands in a first-order relation to the water claimed by farmers for irrigation purposes. This means that the right of Karnataka State to take out water from the Kaveri, to fulfil obligations corresponding to the Bangalore residents' fundamental right to drinking water, has priority. But how much water is the State/Bangalore ultimately entitled to? Enough for meeting the basic needs of all citizens, some 20-25 lpcd, or equivalent to the national standard for a metropolis, 135 lpcd? To how many people is the

¹²⁸⁸ Mosse, p. 212, describes how the "social memory of power and exclusion contained in public water resources has in recent years made them a focus for asserting new demands for equality and accountability".

¹²⁸⁹ Chakravarti, cited in Prakash & Ballabh, p. 192, footnote 2.

Water Board to distribute water? Should it be based on the census made every ten years, but not taking into account the daily influx of migrants and temporary businesspeople? Based on the jurisdiction recognised by the Board, or as the definition of 'Metropolitan Region' laid down in various Acts?

The city of Bangalore has never been wholly self-sufficient regarding drinking water. Competition over the scarce resources is harsh and the city's scope for action is limited, depending as it does on the rural hinterland. It is forced to rely on a variety of sources and the insecurity of this system makes for vulnerability. To meet the legal obligation to provide water, the city's own right to water needs to be firmly established. This must take place via both law and other means such as negotiations and awareness-raising. Sufficient planning and precautions are of growing importance as urbanisation increases.

To comprehend issues of access and allocation from the perspective and context of the regulator *and* the regulated *as well as* what is regulated, we must attempt to take a larger whole into account. We can achieve this by thinking interdisciplinary and take a systemic approach.

Chapter XI

Taking rights and obligations seriously

1 Three dimensions and yet no rights?

“In the past few decades there has been a dramatic increase in negotiations between social groups of various kinds and political institutions, whether at the local, national or supra-national level, phrased in *a language of ‘rights’*. Processes of globalization have led to *rights discourses* being adopted widely throughout the world, far from their original sites in the French and American revolutions. Just as importantly, they have framed new domains of political struggle” (emphasis added).¹²⁹⁰

With these words, authors *Jane K. Cowan, Marie-Bénédicte Dembour* and *Richard A. Wilson* open their anthology ‘Culture and Rights: Anthropological Perspectives’. In this work, apart from proposing an interdisciplinary approach, they emphasise the need for theoretical explorations of rights to involve empirical, contextual studies because “local concerns continue to shape how universal categories of rights are implemented, resisted and transformed”.¹²⁹¹ The authors also suggest that the tension between local and global formulations of rights leads us to consider the interplay between languages and institutions at a multitude of levels – and that ‘culture’ has implications on rights.

The aim of the present study – to analyse critically the meaning and role of rights in attaining improved access to water – now meets the main, general conclu-

¹²⁹⁰ Cowan, Dembour & Wilson, p. 1.

¹²⁹¹ *Ibid.*

sions of the study, namely that we cannot talk in terms of ‘water’ and ‘rights’ unless we are aware of the multiplicity of rights that prevail simultaneously. Rights (entitlements, claims) must be thought of as corresponding to obligations (duties, responsibilities), but must moreover correspond to dynamic social changes and needs.

The three dimensions employed here as analytical devices – human rights, property rights and water rights – represent global ‘rights discourses’ and to some extent also ‘struggles’, ‘phrased in a language of “rights”’. The study has shown how culture and history have shaped much of the Indian understanding of rights in, over and to water. In addition, though, there is an institutional setup consisting of authorities, organisations, bodies and boards. Most of these belong to the public sphere, some not: apart from numerous Indian state actors, the World Bank and other financial organs are playing a decisive role in the governance of Bangalore’s water. There are also private water vendors on the scene. These institutions play a fundamental role in the interpretation and implementation of the relevant rights and obligations.

Added to these aspects are physical features and natural conditions of the landscape, and the man-made changes to it. The case of Bangalore shows their role in improving access to water. Thus the encroached tanks, the city’s elevated location in relation to the distant river, the hard bedrock, but also the rapid urbanisation, growth and administrative transition affect both availability and how rights and obligations are assured, carried out and perceived.

I started with the proposition that ‘rights’ is a notion that is often referred to in the water management and governance debate but often afforded little substance. In the years I have spent conducting the study, the discussion of access to water as a human right has taken great steps forward and the obligations which the right correspond with have been elaborated upon – but the right is still not firmly established as part of international human rights law. There is an influential group who thinks that water neither *is* a universal human right, nor *ought* it be. In the Indian context, the fundamental right to drinking water is expressed in binding terms, but not taken seriously. Implementation is a great challenge for a variety of reasons – one being that the duties of responsible authorities are not spelled out.

Similarly, issues of groundwater rights were determined in the principally interesting *Plachimada* case by a High Court late in 2003 and then amended by the same Court but there was no absolutely authoritative law declared by the Supreme Court before this study was concluded, and some believe a verdict will be postponed forever. The same applies to the Kaveri dispute: despite a ‘final’ order from a special Tribunal, a solution concerning water allocation rights is nowhere in sight. An observation to be drawn from these examples is that *getting right* takes time, because obligations and remedies are costly on the duty-bearers.

Water exists in a cyclic process, continuously in movement and changing state or phase, between vapour, liquid and ice. It is worth being reminded of this before we make our final analyses of ‘access to water’ in the Bangalore situation. In nature,

water is a continuum but in law, it is often differently regulated depending on the factors where? when? why? and who? An integrated, holistic, global approach is pertinent in the efforts to manage and govern water. Different kinds of right, different legal instruments regulate our water resources and these partly converge and co-exist, but partly also stand in opposition to each other because they are linked to competing uses. The three dimensions of rights over and to water are interlinked just as all the phases of water are, and law itself, like water, must be dynamic.

The three dimensions show how different definitions and meanings are given to the understanding of rights in relation to water resources. If we attempt to marry the three, we see that different regulations still prevail depending on the function and purpose of the use. Comparing the strengths of each dimension as they apply in India today, property rights precede over human rights and water rights (in the meaning of permits). Although the legal bases for landowners' groundwater rights are neither explicit nor clear, and although the 'unlimited' right has been curbed by legislation applicable in some situations, it must be argued that the landlord indeed remains a water lord as long as the right is not further limited by law. As held in Chapter IX, a sufficiently clear and precise Supreme Court decision by which judge-made law is laid down is sufficient – at least in theory. In practice, the deepest well and most powerful pump is difficult to control, and despite carefully communicated legislation, many will still hold that water under the soil of an individual person 'belongs to' that person. This social norm, though deeply rooted, is counteracted by the equally strong perception that drinking water is a natural right, and therefore a human right. However, this right is realised mainly through the state and the actors empowered to carry out water supply. For the individual, it is difficult to claim the right as long as no remedies are provided for.

With regard to surface water, the state has expressed that the prerogative of legislating and controlling it lies either with the federal government or with the States. This is contested by many who do not see this as a legitimate order of things. From the Kaveri Tribunal's final directions, we saw that water rights for irrigation preceded over much of the legally-binding right to drinking water when one and the same over-allocated resource was to be shared. It has been argued that political reasons determined the outcome rather than scientific or purely legal ones. The clash between perceptions of what interest should predominate is evident also in the Plachimada case – again a case where scientific and legal conscientiousness took a back seat. One thing is common to both: no holistic decision was taken and neither context nor consequences were recounted in their entirety.

Even with 'better' decisions reached in regard to the Kaveri, the situation in Plachimada and like cases, the issues would still not be settled. At the end of the day, no rights, remedies or other parts of the legal system are powerful enough as such to change enduring situations of competition and conflict between different sectors of water users. This is as far as we can get with law as the sole instrument: it must always be combined with other tools and adequate institutions.

2 Groundwater rights and private providers

When discussing water rights today, it is noticeable how the same words have often been used for several decades to describe the same problems. Many features are nevertheless different now. For example, arguments for permitting the sale of water rights by decoupling them from land rights and promoting less state involvement used to be based partly on other reasons than we see at present. On the topic of water supply and sanitation services, the World Bank held in 1992 that

“[i]rrigation accounts for more than 90 percent of withdrawals in low-income countries... Since domestic use almost always has a much higher private and social *value* than does irrigation, it is from the latter that water will need to be directed... *Taking rights from rural areas* may be impossible for legal or political reasons or undesirable for equity reasons. One solution is for *urban areas to compensate farmers* for the loss of irrigation water” (emphasis added).¹²⁹²

Even then, a billion people around the world were lacking an adequate water supply. The World Bank encouraged urban water users, who pay more for water supply services than do farmers, to cut their costs by buying water rights from the latter group. In other words, it prescribed market-driven transfers for cross-sectoral reallocation. Agricultural and urban users alike had to accept that water was an economic good with a price. Several striking advantages were associated with these methods: they were voluntary, yielded economic benefits for both buyers and sellers, reduced environmental problems caused by profligate use of water in irrigation, and lessened the need for more dams. Agriculture would need to arrange for more efficient production with less water and farmers would have to do with less.¹²⁹³ ‘Water’ was assumedly the same kind of resource whether it was used on the fields, to quench thirst or to flush toilets. More stringent quality standards of potable water and costs involved to distribute such water were seemingly not accounted for in the World Bank theory when the ‘value’ of ‘water’ was explained as ‘higher’ in domestic use than in agriculture.

Most of the trends and problems on the agenda in 1992 – such as climate change, food crisis and urbanisation – are still present, only aggravated. It seems that the World Bank’s reallocation mechanism was not the solution it promised to be. Quite indiscriminate pumping of groundwater is now prevalent in India, often by absentee landowners whose only or main agricultural ‘product’ is the water under their land plots. It has become apparent to some that offering water purchasers access to a deep tubewell is many times more profitable than the alternative, growing crops, or will be at least till the well runs dry and a new aquifer must be found. The perception that the landowners ‘own’ the groundwater situated in invisible but interconnected fissures and cracks underground appears to substantiate *Garrett Hardin’s* controversial thesis: people may act selfishly also when it comes to finite,

¹²⁹² World Bank 1992, p. 16.

¹²⁹³ *Ibid*, p. 101.

shared resources.¹²⁹⁴

The water ‘right’ is only valuable as long as the invisible, unpredictable aquifers underground are yielding, though. With little or no regulation except non-binding and vague policies on pumping in relation to recharge rate, groundwater is being over-extracted in many parts of India today. All the same, more and more water users in a growing number of cities and towns depend on water from wells, and thus depend on well-owners. The role of small-scale private water vendors has been pointed out in relation to the MDGs and the target of improving access to water. Undoubtedly, the private providers are filling a supplementary function in realising the human right to water. Where the public utility cannot provide water or is not willing to do so affordably – as is the case in large parts of Bangalore, especially during the summer season – the strategy for water users will be to buy water from elsewhere. So far, there are so many groundwater sellers in Bangalore that prices are pressed down.¹²⁹⁵ This is not the case in, for instance, Chennai, and it is unlikely to remain so in Bangalore either.

As argued in Chapter V, the poor – when forced to pay for water for lack of alternatives – are likely to buy small quantities at a time, because of lack of storage capacity and money. Several scholars emphasise the challenge of improving the inadequate water services, for example by making private providers more ‘responsive’ to the needs of the urban poor.¹²⁹⁶ In addition, Vishwanath has argued that tanker owners and operators should be trained in methods of checking water quality and should adopt simple chlorination methods for the water they deliver.¹²⁹⁷ There is an obvious need for regulation of the sector, with minimum standards and rules under which sellers can be held accountable.

In India, most informal, private sellers can safely operate on the basis of their legal right to draw unlimited amounts of groundwater from their land. One inherent problem is that regulation of groundwater through a general system of rights (permits, allocations) even for the benefit of access to drinking water means that the state machinery will replace a negative right (refraining from interfering) with a positive right (providing water to users). Resistance to such a reform will inevitably be felt. Nevertheless, it is necessary.

3 Regulating access in Bangalore and elsewhere

Bangalore is one of India’s largest cities – prosperous, beckoning and constantly growing. It is typical of a metropolis in a former developing country in many ways. A.K. Biswas holds that the ‘rural exodus’ to urban areas will be more ‘testing’ in Asian countries such as China and India, where urbanisation is not yet as advanced as in Latin America. A number of constraints that are both complex and interre-

¹²⁹⁴ Hardin.

¹²⁹⁵ Personal communication with seller, January 30, 2007.

¹²⁹⁶ Kjellén & McGranahan; McGranahan & Satterthwaite.

¹²⁹⁷ Vishwanath 2008.

lated have to be overcome simultaneously before full access to water can be assured. One of the most serious challenges is that *new* sources of water – which could be harnessed and developed cost-effectively and in a socially and environmentally acceptable manner – are mostly not available in major urban areas.¹²⁹⁸

Instead of advocating the purchase of water rights from farmers,¹²⁹⁹ researchers and experts talk of demand-side management as the only solution, or in other words: decreasing the demand and the consumption of water in various ways. This has been a mantra at least since the early 1990s, as indicated above. Meanwhile, investments in exploitation of groundwater resources have been made, so effectively way that India's most attractive aquifers are dry or on the verge of drying up.

With the Kaveri source being strictly limited,¹³⁰⁰ groundwater is the current choice for many in Bangalore. Early in summer 2007, the Corporation even envisaged 100 new bore-wells for the Water Board as the way of tackling the dry season ahead.¹³⁰¹ Very many households, particularly in the slums, rely on private vendors selling groundwater if they lack a well of their own and the Water Board fails to deliver. Given the region's hydrogeological and climate conditions, the present development is untenable. Considering also the so-called traffic infarction caused by innumerable vehicles on Bangalore's roads, delivery of groundwater via tankers is, anyway, feasible only within certain distances.

On the positive side, artificial groundwater recharge as well as traditional water conservation practices (RWH) are prescribed in the National Water Policy. In Bangalore, as in many other places in India, rainwater harvesting (including rooftop harvesting) is now mandatory and is being implemented increasingly. Both estimations and practical experience show promising results especially on a household basis. Many aquifers can be recharged. One thing this study has shown is also that with improved methods, more accurate evaluations of the water table in cities such as Bangalore are plausible. Both recharge and development potential can thus differ somewhat from the Department of Mines and Geology estimates. For instance, if it is correct that 39 percent or even more of the raw water abstracted from the Kaveri is lost on the way to the users, this means that substantial amounts are lost in the ground, quite some of which should eventually reach the aquifers.

Despite the (unintentional) groundwater recharge, the fact that this high percentage has been known of for more than a decade is, on the other hand, nothing less than institutionalised wastage. The efficiency of the water supply infrastructure must improve instead of deteriorating further. Part of the problem is the very old pipes – as indeed e.g. London is also experiencing – and part is the omission to

¹²⁹⁸ A.K. Biswas, pp. 182f, 191f.

¹²⁹⁹ As mentioned, though, the Chennai Water Board is doing exactly this: purchasing water from landowners at steadily growing distances. There are surely many other similar examples.

¹³⁰⁰ Were Karnataka and the Bangalore Water Board to honour the Final Order of 14.52 TMC, this would effectively deny a majority of the population access to a safe source of drinking water. From summer 2008 the Water Board will, the Order notwithstanding, deliver 100 MLD to the new international airport.

¹³⁰¹ Anonymous, 2007f.

build up funds for maintenance as required. Let us further not forget that Bangalore's infrastructure undergoes massive pressure from constant transition and development – roads are dug up over and over again for a range of reasons, and the city has monsoon climate.

A comparatively small part of the 39 percent is probably non-revenue consumption, water used but not billed. The water 'lost' in the latter way is also not likely to decrease without considerable subsidies and measures taken to provide basic amenities to the poor. The opposite is more probable, given the large number of extremely poor people who live in and migrate into the cities, where strategies for self-sufficiency involve taking water from the distribution net wherever possible when other sources are lacking. Demand-side management includes taking such facts into account, not least to ensure everyone's human right to water. In addition, research suggests that poor people are urbanising more rapidly than the population as a whole,¹³⁰² and this has to be planned for.

The middle- and upper class-consumers already connected, on the other hand, have little reason to complain about the price of the water. The tariffs are very low in relation to the actual cost of providing the water supply and sanitation service as a whole – it has been estimated that this 'subsidy' can be as high as Rs.300 a month for a household.¹³⁰³ Tariff hikes are planned¹³⁰⁴ but economic incentives and information alone do not seem adequate tools for attaining water conservation and efficiency among affluent Bangaloreans.¹³⁰⁵ A proper mix of instruments is needed, including drastic measures such as the Water Board's (unlawful) requirement for RWH structures in 2007.

The Water Board has begun recycling water in special treatment plants for potable purposes. Consumers must realise that this so-called NeWater will be *pukka* and probably of better quality than the city's groundwater once the technology is in place. With rationing around the corner, even big, individual consumers will have to learn to be more water-savvy. Rights and corresponding duties in the field of access to water cannot solely be the state's task to fulfil. Especially if human rights are seen as codifying morality and solidarity, responsibility also devolves onto water users themselves.

Each water user has her or his – more or less limited – horizon also in terms of (access to) drinkable water. This is natural given what can be demanded of people's knowledge systems, normally based upon one's own experience and what is handed

¹³⁰² Ravallion, Chen & Sangraula.

¹³⁰³ Vishwanath 2007.

¹³⁰⁴ At the time of writing, this has been reported in the mass-media but is not yet confirmed.

¹³⁰⁵ In many of the privatisation drives now seen in parts India, dramatically increased prices are explained as a way of decreasing demand among consumers. What seems to be constantly forgotten, or neglected, is the group of water users who will never become 'consumers' under the conditions stipulated by the providers: in the hand-to-mouth existence of millions of people, there is simply no ability to pay the advance amounts asked for to get a meter, etc., if one is lucky enough to even have a *kbata*.

down from generation to generation. The idea of what water is *pukka* and what is not is, however, not always founded on current scientific knowledge.

Yet some knowledge concerning water may exist but not be implemented – for various reasons even to the detriment of users. In one slum area visited for this study, where the drinking-water situation was particularly bad, the women were asked whether they boiled the water before it was consumed. The reply was a rhetorical question: how could they afford the fuel? I interpreted this as a ‘no, they did not boil’; but also so that they seemed to possess at least some of the knowledge underlying my question (boiling kills the pathogenic bacteria in the water). As I perceived the topic as very sensitive – it revealed the poverty the respondents were living in – I did not follow-up by asking e.g. whether they filtered the water (to remove zooplankton, another pathogen).¹³⁰⁶ Hence I was never sure whether these women knew of other methods for making water safe to drink. The primary aim was not to investigate these issues, but it would have been interesting to hear the answers, partly to validate the following statement:

“The age-old belief in India is that water is the personification of goddess Ganga, who has the ability to keep water clean despite letting any pollutant into it. Frequent outbreak of water-borne diseases... was considered to be the result of her anger which could be appeased through worship and performance of certain rituals. Failure to link water-borne diseases to water pollution has led to widespread abuse of water bodies as public toilets, bathing places, burial and cremation grounds”.¹³⁰⁷

It is not clear from the quotation whether there is actually a failure to link water-borne disease to different methods for treating drinking water. Neither is it possible to say how widespread this ‘belief’ in the goddess of Ganga is in contemporary India or whether the belief is more prevalent among certain groups (e.g., uneducated or very religious communities) and/or in certain geographical locations (i.e., the rural areas and in slums). As shown in Chapter IV, the belief is referred to in several court decisions.¹³⁰⁸

Harding has, in any event, warned that

“[n]ot all proposed standards for knowledge are equally good – indeed, some are not only inadequate, but dangerous to their believers’ lives. One can easily be killed by poisonous food, wild animals... toxic environments, dangerous and faulty technologies, and cigarettes, for example, if one does not carefully evaluate the standards that friends, strangers, and diverse institutions use to sort knowledge claims into the reliable and the unreliable”.¹³⁰⁹

¹³⁰⁶ It has now been ‘shown’ (in a peer-reviewed journal – the cursor for objective, methodically performed, and legitimate ‘science’) how folded textile material such as a *sari* can be used to filter otherwise untreated drinking water. This practice successfully reduces the outbreaks of cholera, *cf.* Colwell *et al.*

¹³⁰⁷ Narasimha Rao & Jagadiswara Rao.

¹³⁰⁸ For instance, *K.M. Chinnappa v. Union of India & ors.* (2003) 2 SC 724, para 25.

¹³⁰⁹ Harding 1998, p. 19, continuing “However, there also is not just one adequate standard for

Outbreaks of cholera and gastroenteritis are not uncommon in cities such as Bangalore, as the majority of the sewage water is left untreated or goes through a single step in treatment plants. Before NeWater can become an alternative source for those who can afford to choose, public utilities need to build trust in their capacity to handle water ‘from cradle to grave’ while retaining adequate quality. A challenge, but an achievable one.

4 A reform of mindsets: responsibilities, not rights

Over four thousand children around the world die each day because – at least in great part – they and their parents have to resort to harmful sources of water, and/or have access to very little water. Unclean water is the cause, direct or indirect, of the spread of water-related diseases, and too little water contributes greatly to unsatisfactory and sometimes fatal hygiene standards. The problem of access is thus not primarily that people get no water at all, because in such situations they die within days; but that what is within reach and affordable is not ‘safe’ or sufficient. As a result, people and especially women and girl children are missing out on fundamental aspects of development, such as schooling, income earning opportunities, good health and reasonable expectations of life in general. These demands are by no means excessive but the natural, human rights of each and everyone. For this reason, it is reassuring that Indian courts are refraining from taking a narrow, dogmatic and black-letter stance on the issue and have instead chosen to drastically widen the meaning of the constitutional ‘right to life’. This contrasts with the positivistic notion of a human right to water in international law, as rigidly interpreted by some commentators.

The question of access cannot be seen as one of mere survival. In relation to sanitation, the concepts *dignity* and *security* are frequently used – and they apply equally in the area of water for drinking and other domestic purposes. The potential for progress and development at all levels of society depends on access to water.

Provision of water relates to issues of subsistence, health and well-being, to growth and development. It has also to be carefully balanced against the needs of food production and other non-domestic uses, including industrial. These factors in turn remind one of non-city conditions, outside the limits and borders of the urban scenario. Thus, where conditions are such that competition between different sectors of water-users prevails, urban demands are likely to cause, even aggravate, allocation conflicts. As we have seen, all of this is undoubtedly true for Bangalore.

Ensuring human rights is costly in many ways. Developing nations with few taxpayers and small budgets to spend on various urgent items can find numerous reasons not to prioritise water provision to the poor. It must also be recognised that much of the change needed to provide the poor, who often suffer most from lack

knowledge [production/claims], but different ones for different purposes”, this à propos historical/sociological relativism, and ‘Eurocentrism’.

of access, is likely to upset the privileges of the rich and influential and thereby be difficult to implement. Prioritising access to a basic need should not need to be a question of political will but at the end of the day, this is often what the question boils down to in the debate. A balancing of interests and budgetary allowances is a prerequisite, but equally important are regulations in combination with appropriate tools, such as considerable economic incentives and pervasive information campaigns to achieve attitude changes.

To many, the issue of access can sound like a requirement on states to provide water at all costs, regardless of its availability even in situations of scarcity. Water access can also appear as a burden ultimately and wholly placed on the state and its organs. However, there are secondary addressees who bear back-up responsibilities. Non-state actors including business enterprises, transnational corporations, civil society and essentially all citizens have roles as suppliers and/or water users. This means that they (we) simultaneously have fundamental obligations coupled to the right to water. Respecting and promoting the human right is intertwined with the principle of sustainable development, the precautionary principle, the Public Trust doctrine, and so on. Everyone has duties to the community, as the Universal Declaration of Human Rights reminds us of.

For instance, individuals in the role of private vendors have a function in providing drinking water to millions of city dwellers, but also a responsibility to preserve and recharge the groundwater sources. A new doctrine equivalent to that of polluter pays-principle should therefore also be developed: pumper pays.

Apart from examining the situation in Bangalore, this study has given a general picture of how access to water is a matter of human rights, property rights, and water rights. It has shown how these dimensions are perceived and regulated. Much of the study has revolved around the law and its practitioners. Knowledge systems may be slow to change, and so may the judiciary and the legislator – conservatism and ceremonious procedures are characteristic features. As soon as a ‘hard’ case has reached the court, there is however a leeway for the judge(s) to rely on values and principles to fill the gaps, in addition to positive law. The discretion allowed in the system functions to ‘build in’ a potential for resilience which is beneficial for flexibility, capacity to deal with change, and continued development of the law as an instrument. This is of importance in the event of transition, for instance urbanisation, or a sudden expansion of administrative borders as in the case of Bangalore. It can also prove important for dealing with shifts in (the view of) societal phenomena such as are induced by climate change.

Justice Katju is, as noted, a proponent of judicial activism, and has pronounced that

“[i]n today’s India human rights and justice can have no other *meaning* than *providing* every man and woman in the society with food, *water* and other necessities... To my mind any other meaning given to the words ‘justice’ or ‘human rights’ is only empty talk and devoid of any real worth or content... ”

[T]he judiciary must *ensure that the State shall look after the welfare of the people*, as is the mandate of the directive principles of State policy in our Constitution. Although India has been independent for more than 50 years, yet we have not even been able to provide food, water and employment to our people. What kind of independence is this?... The judiciary must therefore not limit its activity to the traditional role of deciding dispute between two parties, but must also *contribute to the progress of the nation and creation of a social order*” (emphasis added).¹³¹⁰

Despite high ambitions, though, the judiciary neither can nor should step into the shoes of the executive. What a judge can ‘provide’ is unambiguous interpretations and, when necessary, even new law to fill voids and cracks in the existing law. When required to uphold human rights and protect environmental values, he or she must also make use of the discretionary power to construe the spirit of the law rather than the black letter. The *dharma* of each individual requires this.

The right and power of the state to regulate water is sometimes talked of in India as unjust, immoral and iniquitous intervention in the people’s absolute rights. This way of reasoning fails to take into account the public and ecological interest in water and the need for systemic thinking and an integrated approach to water. In all modern rule-of-law nations, the state as a representative of the public regulates common waters. Property law is conceived of as a bundle of rights, including ownership, usufruct and interests such as easements. In modern legal systems, several aspects of property are regulated so as to limit the extent of the entitlements that the right-holder can legally claim. A right such as ownership is therefore normally conditioned by the interests of neighbours, the general public, the natural environment and future generations. The situation in Indian law is no different. No natural resources – vital to the fundamental right to life – can be utilised if this results in irreversible damage to the environment. Misuse of resources can therefore not be *permitted*, nor can over-extraction and pollution that reduce others’ quality of life. More state intervention is needed, not less. In the statistics, the proportion of people without access to safe drinking water may have halved in India since base year 1990, but millions of people are still waiting for fulfilment of their right to water.

¹³¹⁰ Katju 2003.

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