Water Sovereignty Series 7

Financing the WATER CRISES

WORLD BANK, INTERNATIONAL AID AGENCIES & WATER PRIVATISATION

Navdanya / RFSTE

FINANCING WATER CRISES

WORLD BANK, INTERNATIONAL AID AGENCIES & WATER PRIVATISATION

Navdanya / Research Foundation For Science,
Technology & Ecology,

This report is dedicated to the farmers who sacrified their lives on 26th August, 2005 in Tonk (Rajasthan), while demanding the release of water.

Shri Prakash Mali

Smt. Gujar

Shri Madan Lal Jat

Shri Krishan Lal Chaudhry

Shri Ram Narayan Chaudhry

Financing Water Crises:
World Bank, International AID Agencies & Water Privatisation

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Introduction

Aiding Water Privatisation

India is a land of major rivers and abundant monsoon rain in most regions is today facing a serious water crisis. Rivers are dying as their waters are dammed and diverted. Groundwater is disappearing as it is mined. And World Bank loans have had a major role in creating India's water crisis. The Bank has driven intensive, irrigation projects, which have wasted water, and created water logged and saline deserts. The Bank has promoted ground water mining with its tube well irrigation loans. During the 1950's – 1980's the World Bank financed the creation of a water crisis in India by financing dams and diversion of river waters. From the 1990's the Bank is using the financial and hydrological crisis it created to force Indian states and public utilities to privatize water services and assets.

Water privatization projects are a major World Bank mediated political and financial scam, locking public utilities and citizens into a system where the public pays a global corporation super high tariffs for water that belongs to us and has been provided through the services to our public utilities.

We are bringing out this report "AIDing Water Privatization" to expose the World Bank aided water privatization scam.

The report is in two parts. The first part lists the World Bank projects in three categories – loans given from 1950-1990, water restructuring projects from 1990-2005, and projects at approval stage. The second part of the report includes case studies of World Bank driven water privatization projects in Delhi, Tamil Nadu, Madhya Pradesh and Rajasthan.

The case studies reveal a pattern. Firstly, the World Bank is using its loans as conditionality for privatisation. Secondly, it is reducing the universal access system of public utilities to a privileged access to industry and 24x7 supply for rich urban areas. Thirdly, it is diverting limited and scarce ground water from rural areas to urban areas, thus undermining the Millennium Development Goal(s) to reduce by half the proportion of people without sustainable access to safe drinking water". Fourthly, the World Bank is forcing governments and public utilities to increase water tariffs, and to commodify water, undermining people's fundamental right to water as part of the right to life. Fifthly, since its projects are based on non-sustainable water use, World Bank projects are failing as is clear in the case of the Sonia Vihar plant in Delhi and the Veeranam project in Tamil Nadu.

World Bank loans are failing to bring water to people. They are successful only in guaranteeing contracts and profits for water corporations like Suez, Vivendi, Bechtel.

World Bank loan conditionalities have many paradigm shifts built into them – the shift from "water for life" to "water for profits", the shift from "water democracy" to "water apartheid", from "some for all" to "all for some".

As the debate on privatisation has intensified, the semantics of privatization has changed, but the processes of privatization unfold unheeded. "Privatization" was launched as a core of the globalization and trade liberalisation paradigm, based on the crude ideology that public is bad, private is good, domestic is bad, multinational is good. As movements emerged against water privatisation, the World Bank rhetoric shifted to "private sector participation" and an attempt was made to define privatization of services and management contracts as not being privatisation. The World Bank Director

has stated, “Neither under the proposed project, not any advisory work is the Bank proposing privatization of nay part of Delhi Jal Board, nor is there a time table for any privatization. As a matter of fact, at this time, the World Bank would definitely not recommend privatization.

However, the World Bank loan of $ 2.5 million was used to privatize the Sonia Vihar Project to Suez Degremont, it was used to privatize the study on Delhi's water supply to Price Water House, and it was even being used to privatize law making by global corporations by having Price Water House draft the law for a water regulatory authority, thus, by passing our elected representatives and killing democracy. This is the privatization of water system of government.

This was at the heart of the debate between the Delhi Jal Board and the Citizens Front for Water Democracy.

Letter of Mr. Rakesh Mohan,
Chief Executive Officer,
Delhi Jal Board, New Delhi

March 19, 2005

Dear Ms. Shiva,

I would like to take this opportunity to respond to some of the concerns relating to water and the present process of enhancing efficient in the DJB.

I would like to reiterate what has been clarified by the Hon'ble Chief Minister, who is the Chairperson of the DJB, on a number of occasions and at different forum that there is no proposal to privatize water in Delhi. Since the time of inception, number of works were executed in the DJB through equipment suppliers and contractors and therefore if we purchase equipments to modernize or upgrade our systems, it is not privatization. DJB has taken a conscious decision to upgrade its services, increase responsiveness to the consumer demands, incentivise demand management by the consumers and make the people knowledgeable about preciousness of water in order to promote conservation. To do this, it is necessary to professionalise our services, our operations, our financial and accounting systems and our practices. Besides training our own staff in the best management practices, it is our endeavor to adopt best international practices in operations and management.

I would like to clarify that the treatment plants in Delhi have been put by DJB by engaging services of some or the other organization. The selection of any agency to do a job is done after going through a process of international competitive bidding and by following the established tender norms. We have taken assistance of the World Bank to carry out a number of studies on different facets of DJB's management and it is for the DJB to accept such recommendations, as would increase our proficiency and productivity. It is in line with this mission that DJB proposes to move from intermittent water supply to sustained water supply. This will not only help us rationalize distribution of water in an equitable manner but also arrest leakages and complaints of contamination. The agenda for enforcing demand management and higher efficiency levels and for setting performance targets for our own self, is the only agenda being following by DJB. DJB is trying to do this after extensive consultations with the employees, experts and other groups. It is a process to show that whatever we do is after consultation and with proper concern and care for the apprehensions of our own people. It may come as no surprise to you that the pre-revised water tariff in Delhi was amongst the lowest in the country. This water tariffs have been rationalized in order to ensure that there is no wastage and to increase the participation of the consumers in following practices for saving potable water. With the population of Delhi growing

every day and with no other additional water sources in sight, it is important that the consumers use water for priority uses and tariff is only one of the tools being used for demand management. DJB is also incentivising consumers to take rain water harvesting in order to improve the water table in Delhi. I would like to dispel the impression being created that water is being produced without any cost by the DJB. Besides paying for the raw water, which is being received from UP and Haryana, huge cost are being incurred in bringing raw water to the water treatment plants, in treating the water to potable quality and thereafter in maintaining its quality and ultimately in collection, conveyance and treatment of sewage water. There is o effort by the DJB to recover the total operational cost from the consumers but the consumers are being asked to share in the cost of maintenance of the systems, which are being laid to take the potable water to their doorstep.

Looking at your interest in the subject, I thought it fit to clarify some of the issues on which the public is being misled and to reaffirm to you our commitment in adopting the best practices to provide quality services to the consumers and to increase our responses to their concerns.

With best wishes,

Yours sincerely,

(Rakesh Mohan)

Response of Dr. Vandana Shiva to Mr. Rakesh Mohan's Letter

April 05, 2005

Dear Rakesh Mohan ji,

Thank you for your letter of 19th March, 2005.

I am happy to have this dialogue with you on Delhi's water privatization. However, I would like to clarify that the issues raised by the Citizens Front for Water Democracy reflect the concerns of millions of Delhi's citizens and are not just my personal concerns. Therefore besides a dialogue with me, DJB needs to have a formal dialogue with the Citizens Front for Water Democracy. During our Jal Swaraj Yatra undertaken from 15th - 22nd March, more than 1,50,000 citizens voted against the tariff hike and the entry of MNC's in Delhi's water system. For us these are elements of water privatization.

Privatisation of public utilities is an element of conditionalities in all World Bank loans for "restructuring" and "reforming" the water sector. Private sector participation, ranging from management contracts, build, operate and transfer projects to concessions are the means and end promoted by the World Bank. Since the current "reforms" are driven by the World Bank, privatization is the objective. You have chosen to refer to World Bank conditionalities as World Bank "assistance". If it is for the DJB to accept World Bank "recommendations", or not, then you have both the responsibility and the freedom, to get out of the World Bank's ideology of market fundamentalism and base decisions about Delhi's water on democracy and public participation, not on secrecy and social exclusion.

There are a number of indicators that DJB is taking steps on the privatization road include setting up of a regulator and increase in water tariffs. The process of privatization starts when water services are driven by markets and profits, not by people's fundamental right to get water and the fundamental duty of the state to provide water. This is what the World Banks language of "demand management" refers to. The process of privatization is underway when instead of elected legislators drafting law,

unelected corporations like Price Waterhouse Cooper draft a "Water and Waste Water Reforms Bill 2003". Privatisation is on its way when a regulator is set up and tariffs are hiked. And privatization has started when DJB hands over operations of its plants to MNC's.

The movement against water privatization started in Delhi when the Sonia Vihar Plant was inaugurated on 21st June 2002 and the contract on a 10 year BOT (build, operate and transfer) basis was given to the French company Ondeo Degremont (a subsidiary of Suez Lyonnaise de Eaux).

In your letter you have written "since the time of inception, number of works were executed in the DJB through equipment suppliers and contractors and, therefore, if we purchase equipment to modernize or upgrade our systems, it is not privatization".

We hire contractors to build our homes. We do not pay them rents after the construction is over. This is what has happened with the Sonia Vihar plant.

Mr. Mohan, you will agree with me that a 10 year contract to build and operate is not the same as a one time supply of equipment or construction contract. A public utility must, of course, turn to private suppliers for materials and equipment. But when management of a system is contracted out to an MNC for 10 years on terms that put a burden on the public without bringing them benefits while bringing unfair advantages and super profits to Suez, the public utility has started to get privatized. Privatisation is a system in which the public looses and corporations gain. In every aspect, Sonia Vihar is the first step in privatization of Delhi's water supply.

The Delhi Jal Board could have built the Sonia Vihar plant for Rs. 100 crore. Instead you have spend Rs. 189.90 crores to build it through Suez Degremont. Is this not a waste of precious public wealth? Is this not a factor in the budget deficit of DJB for which you are now burdening the citizens with a ten-fold hike in water tariffs.

The BOT agreement with Suez Degremont for the Sonia Vihar plant is also biased against the public and unfairly privileges the MNC. Clause 3.6 obliges the Delhi Jal Board to provide "free of charge, raw water". However, the "raw water" is our sacred Ganga Jal to be brought from Tehri. And it is to be brought at high cost to Sonia Vihar. The public investments made to bring Ganga Jal to Sonia Vihar include –

Rs. 10,000 crores for constructing Tehri Dam

Rs. 147,453 crores for the cots of construction of the Upper Ganga Canal

Rs. 111.31 crores for laying pipelines from Muradnagar to Sonia Vihar

i.e a total of Rs. 158,149.31 crores of public investment. And you have agreed to supply water provided at such high cost for free to Suez. In your letter you state "I would like to dispel the impression being created that water is being produced without any cost to the DJB". By providing water for free in the Sonia Vihar contract, you are in fact creating the very impression you want to dispel.

The contract also obliges (4.21) the DJB to supply free electricity to Suez. With privatization of electricity, this clause adds further burdens on the public. And as the Delhi Government disclosed on 3rd April, the privately owned power distribution companies owe the Delhi Government a whopping Rs. 4816 crores. Privatisation of water, like privatization of electricity is a recipe for outrageous public losses and private super profits.

The Sonia Vihar contract also holds the DJB liable to pay Suez for failure to supply "Raw Water". Since Uttaranchal and Uttar Pradesh governments have clearly refused to supply water to Sonia Vihar, the burden on the public due to DJB's privatization folly is Rs. 1 crore per day which is nearly $ 400 crore per year, equal to the annual operations and maintenance costs of supplying Delhi's citizens water. Why is the citizens share of public finances being diverted to global corporation which is not even supplying water? Why was the contract signed without the guarantee of water availability?

Further, since there is no guarantee of water supply from the Ganga, should the Delhi Government not cancel the contract with Suez and run Sonia Vihar on the basis of a public-public partnership and on the principles of conservation and recycling of our precious water, which the Water Workers Alliance and RFSTE have proposed.

For scarce and limited natural resources, managing the supply is the only means for conservation. By following the World Bank's mantra of "demand management", you are in fact laying the ground for non-sustainable, inequitable water supply.

The tariff hike you have announced puts an unjust and unfair burden on the poor and the middle classes. You are making the poor pay for water they do not receive, and for concessions and subsidies you are providing to MNC's from our public wealth. You are trying to recover from citizens the super profits you have guaranteed to Suez.

You say Delhi's water is not being privatized. The real test of your not privatizing Delhi's water supply will be –

(a) To start a public-public partnership to solve Delhi's water problems. We had invited you to begin this process in September, and we invite you again on the basis of the enclosed proposal.

(b) Cancel the Sonia Vihar contract with Suez and run the Sonia Vihar plant on the basis of partnership between DJB and the public.

(c) Revise the water tariffs through a public referendum and guarantee safe, accessible water as a public good, especially the poor.

(d) Put every contract and agreement in the public domain including agreements with the World Bank and contracts with private companies. The Right to Information Act makes this an obligation of a public agency. Secrecy in matters of public services such as water supply are proofs of privatization. If you want to convince us that Delhi's water is not being privatized, you will make public all documents that affect our water rights and impinge on our democratic rights as citizens of Delhi.

Committed to a democratic solution to Delhi's water crisis, and to evolving public-public partnerships as alternatives to privatization.

Sincerely,

Dr. Vandana Shiva
Convener, Citizens Front for Water Democracy
Director, Research Foundation for Science, Technology & Ecology
A-60, Hauz Khas
New Delhi - 110 016

The latest semantic shift is to refer to privatization as "outsourcing". As Delhi Chief Minister Shiela Dikshit has started on 16th August, "The Planning Commission has asked us to make the entire procedure for outsourcing the management of water supply more transparent" (Water Supply outsourcing to be an open book: CM "Express Newsline, New Delhi, 17.08.2005, New Delhi, p1)

We see a number of problems in the way the government has handled the water privatization issue. Firstly, changing the sementies does not change the substance. Secondly, the Chief Minister should have gone to the citizens of Delhi or their elected representatives to resolve the issue. The Planning Commission has no executive function in issues of governance. It is a different matter that the Vice Chairman of the Planning Commission, Mr. Montek Singh Ahluwalia is taking initiative in executive decisions related to water.

The government's priority for commodification and privatization of water was clearly stated by the Planning Commission Deputy Chairman, Montek

Singh Ahluwalia's statement in his opening remarks at the National Development Council (NDC) that farmers should pay for water. While Mr. Ahluwalia argued that rich farmers are the real beneficiaries of free water, the reality is that when water is commodified, it is the rich who can afford to pay. The poor peasant, already struggling under the burden of debt, driven to suicide, will be wiped out of she/he is denied access to water and made to pay for a resource that is their common property. If poor peasants are pitted against rich agribusiness in competition for water through water markets, agribusiness will monopolise irrigation. If poor villagers are pitted against rich city dwellers in a water war, the rich will win.

The problem of water waste is not agriculture per se but chemical industrial farming mistakenly referred to as the Green Revolution. It is possible to produce more nutrition per acre growing millets that need only 200 mm of water. We can increase food availability 200 fold through simultaneously conserving our biodiversity and scarce water resources. It is possible to decrease water use while increasing food output by shifting from chemical farming to organic farming. However, these water conservation strategies were not what Mr. Ahluwalia proposed He proposed more water intensive cultivation of fruits, vegetables, shrimps for exports. In other words, while India is gripped by a severe water crisis, and even more severe water conflicts, our Deputy Chairman of the Planning Commission is recommending that we export water as a "virtual water" subsidy to the rich consumers of the North and instead of calling for water conservation through organic farming, be wants the impoverished peasantry to finance insane schemes like the $200 billion River Linking Scheme. The Deputy Chairman stated that “chasing short term benefits that accrue from vote bank politics, instead of seeking long term gains that flow from prudent economic policies, has become the bane of our decision-making process.” (Pioneer editorial, 29th June, 2005)

What Mr. Ahluwalia is calling “short term benefits that accrue from vote bank politics” others call democracy. What he refers to as “prudent economic policies” are the World Bank/IMF/ADB paradigm of water privatization which has already led to the killing of farmers in Tonk and could lead to many more water wars. That Mr. Ahluwalia should subscribe to the IMF paradigm is not an accident since he flew in directly from Washington to head India's Planning Commission when the new Congress coalition came to power after May 2004 elections.

Thirdly, the problem of privatization cannot be reduced to a matter of transparency. It is a more crucially an issue of who will own and manage water resources and services - the public or private corporations. Transparency alone cannot settle the basic issue of law and governance, of rights and ownership. These fundamental issues come before transparency.

While the Government talking transparency is a success of people's movements against Delhi's water privatization that started in 2002, the real issue is not just citizens' access to information on privatization processes, but citizens' participation in deciding whether the water supply should be privatized or outsourced in the first place. This right is being denied by World Bank conditionalities.

The alternatives we have proposed in the form of public -public partnership show that water privatisation is neither necessary nor desirable. Affordable water for all can only be provided when water is managed as a public good, with strong public utilities and vital public participation. This is the agenda of water democracy, which we are committed to building, as an alternative to the water dictatorship that the World Bank is trying to establish through its loan conditionalities imposing corrupt, greedy, unaccountable water corporations on Indian citizens.

Whenever private corporations take over public services, it is privatization. Semantic play does not change the reality.

On 20th August, 2005, when Paul Wolfowitz was visiting India, and offered an additional $ 1 billion of loans for water, irrigation and rural infrastructure, members of the Citizens Front for Water Democracy had a protest at the World Bank, and submitted a Memorandum.

Memorandum to
Paul Wolfowitz, The President of the World Bank

Dear Mr. Wolfowitz,

You arrive in Delhi in the midst of the controversy over the privatization of Delhi's water supply and water services.

Over the past four decades, the World Bank gave loans to India to build large dams and drill deep tubewells, running our rivers and aquifers dry. The World Bank is now using the water scarcity and water crisis it has created by financing non-sustainable use to privatize and commodify water under the slogan of "water sector reforms" and "private sector participation". All water projects of the World Bank are driving water privatization.

Firstly, the World Bank is using its loans as conditionality for privatisation. Secondly, it is reducing the universal access system of public utilities to a privileged access to industry and 24x7 supply for rich urban areas. Thirdly, it is diverting limited and scarce water from rural areas to urban areas, thus undermining the Millennium Development Goal(7) to reduce by half the proportion of people without sustainable access to safe drinking water". Fourthly, the World Bank is forcing governments and public utilities to increase water tariffs, and to commodify water, undermining people's fundamental right to water as part of the right to life. Fifthly, since its projects are based on non-sustainable water use, World Bank projects are failing as is clear in the case of the Sonia Vihar plant in Delhi and the Veeranam project in Tamil Nadu. World Bank loans are failing to bring water to people. They are successful only in guaranteeing contracts and profits for water corporations like Suez, Vivendi, Bechtel and consultancy firms PWC.

World Bank loan conditionalities have many paradigm shifts built into them – the shift from "water for life" to "water for profits", the shift from "water democracy" to "water apartheid", from "some for all" to "all for some".

Privatisation of Water Services Is Still Water Privatisation

As the debate on privatisation has intensified, the semantics of privatization has changed, but the World Bank driven processes of privatization unfold unheeded. "Privatization" was launched as a core of the globalization and trade liberalisation paradigm, based on the crude ideology that public is bad, private is good, domestic is bad, multinational is good. As movements emerged against water privatisation, the World Bank rhetoric shifted to "private sector participation" and an attempt was made to define privatization of services and management contracts as not being privatisation. The World Bank Director Michael Carter has stated, "Neither under the proposed project, not any advisory work is the Bank proposing privatization of nay part of Delhi Jal Board, nor is there a time table for any privatization. As a matter of fact, at this time, the World Bank would definitely not recommend privatization.

"However, whenever private corporations take over public services, it is privatization. Semantic play does not change the reality.

The World Bank loan of $ 2.5 million to Delhi was used to privatize the Sonia Vihar Project to Suez Degremont, it was used to privatize the project preparation study to Price Water House. The World Bank loan was even being used to privatize law making by having PWC draft the "Delhi Water and Waste Water Reforms Bill, 2003", thus, by passing our elected representatives. All World Bank water reform loans have changes in laws built into them. This subverts our constitution in which only elected representatives can be lawmakers. By financing global corporations to write India's water legislation, the World Bank is not just privatizing water, it is privatizing governance, and subverting democracy. The alternatives we have proposed in the form of public –public partnership show that water privatisation

is neither necessary nor desirable. Affordable water for all can only be provided when water is managed as a public good, with strong public utilities and vital public participation. This is the agenda of water democracy, which we are committed to building, as an alternative to the water dictatorship that the World Bank is trying to establish through its loan conditionalities imposing corrupt, greedy, unaccountable water corporations on Indian citizens.

The 24x7 Scam : From "Some For All" To "All For Some"

The 24x7 scheme being funded by the World Bank for two South Delhi zones is also a privatization scheme since the contract is to be awarded to global corporations like Vivendi, Suez, Saur.

The Statement by Michael Carter, Country Director of the World Bank in India, made at the peak of the debate on World bank driven privatisation in Delhi has stated that the World Bank funds, will be used to "award management contracts to professional operators" in two zones of Delhi. The implication is that the water workers and the engineers of the Delhi Jal Board are not "professional". There is also the implication that the other zones in Delhi can be denied reliable water supply, as all financial and management focus is limited to two zones. This is a recipe of water apartheid, not improving urban water supply. The free water provided to the poor is being stopped by stopping water provisioning through public taps and tankers to slums. While referring to the poor in the 24x7 schemes, the Bank is hiding the fact that even the poor will have to pay for water. If supplying water to two zones with 14 lakh population will cost $ 250 million, then on the World Bank model, Delhi's 13 million will need $ 2.5 billion. This is a recipe for financial non-sustainability and permanent indebtedness. When the World Bank's past lending has left our rivers and ground water aquifers dry, the tacky consumerist slogan of 24x7 can only bring water twenty four hours a day, seven days a week, to privileged enclaves by diverting it from other users – the rural and urban poor. 24x7 projects are in effect 24x7 drying up of our rivers, 24x7 denial of water to the economically underprivileged, politically marginalized communities; 24x7 guaranteed super profits for MNCs.

The Great Water Robberty

The myth of private sector participation is that MNC's "inject large scale investment capital into the sector". However, all privatization projects in india are based on World Bank loans. Corporations do not bring investments they take out profits.The public thus pays six times over.

Firstly, through interest payments on World Bank loans

Secondly, through increased tariffs

Thirdly, through costs of providing water and energy for free to the private company

Fourthly, through guarantees, which ensure corporations get paid even if the contract is abandoned and they fail to provide water

Fifthly, through unemployment created by private corporations shedding employees in water utilities

Sixthly, through depletion and diversion of limited water resources for privatization projects.

The alternative to private sector participation and private-public partnership is public-public partnership as we have evolved in a proposal drawn up by the RFSTE and Water Workers Alliance.

Our Commitment to Water Democracy

As citizens of a free society, we have a right to our water, and to decisions of how our water will be utilized and managed. We strongly object to the World Bank using its financial muscle to hand over our water supply and water services to global corporations.

Our commitment to building water democracy is deep. This is an issue of ownership, of our rights, of our participation in decision-making – not just a issue of "transparency" of bids for privatization.

We will resist the privatization and "out sourcing" of our water services and commodification of our water resources. We have the capacity, and the right to provide water, without getting trapped in World Bank debt, without subjecting ourselves to World Bank conditionalities, which help global corporations to hijack our water.

WE have just one message to you as President of the World Bank "*Hands Off Our Precious Water*".

Yours sincerely,

Dr. Vandana Shiva Co-convenor, Citizens Front for Water Democracy Director, RFSTE	S. A. Naqvi Co-convenor, Citizens Front for Water Democracy Water Workers Alliance	Ram Parkash Delhi Water Sewer & - Sewage Disposal - Employees Union, Delhi Jal Board

2

The Water Privatistion Process

World Bank is driving rapid water privatisation in the name of Urban Infrastructure Restructuring and Water sector reforms. The privatisation of water in India is forcefully moving ahead despite mounting evidence of failed projects and disgruntled communities and citizens in various parts of the world. One of the eye opening fact is the power sector which was privatised immediately after the opening up of Indian economy. Ten years later, the scenario doesn't seem to be too good with power cuts and mounting bills. If the water supply and irrigation sector meet the same fate, the consequences will be more far reaching because water means life and livelihood. A report which investigated an outbreak of cholera in Africa, undertaken by the International Consortium of Investigative Journalists (ICIJ), a project of the Centre for Public Integrity, has blamed that the poor community who couldn't pay for high priced supply water after privatisation became dependent on stream and pond water heavily polluted by pesticides and human faecal matter. They reported, "an aggressive group of utility companies, primarily European, are attempting to privatise the world's drinking water with the help of the World Bank and other international financial institutions."

The privatisation process has begun in the developing world where the World Bank continues to use financial bait to force governments to privatise their water utilities in exchange for loans. The World Bank has not only been pushing privatisation for so called water sector reform, it has also increasingly made its loans conditional on local governments, the conditions being privatisation. A majority of World Bank's water supply loans from 1990 onwards have privatisation as a pre-condition.

Situation in India

In India, the privatisation of water supply utilities and the irrigation sector is taking place aggressively. In cities the water resource management is being transferred to private corporations through BOT/BOOT projects or management contracts. The interlinking of rivers is another large and more insidious privatisation project camouflaged under the water sector restructuring projects of various states which will have a profound and far-reaching impact. Together the two processes will give away the complete control of water resources of our country into the hands of the multinational private corporations.

In the name of sustainable water supply for cities and to the agriculture sector World Bank and its ilk are promoting the most unsustainable options. The concept of 24X7, moving farther away in search of water rather than self sufficiency, appropriation of resources from other committed uses, infringing upon the life and livelihoods of millions of distant communities. The water supply sources are moving away significantly in most cities (Table 1) which now epitomizes unsustainability in every aspect.

Privatisation of Urban Water Services in India

The privatisation of water supply systems in major towns in India is a natural corollary of India becoming a member-nation of WTO. A basic membership requirement was to transform the then existing 1987 policy, which was done by enacting the 2002 Water Policy with a special section on Private Sector Participation. This opened the floodgates for the privatisation of the water supply system in Indian cities. These cities so far include Bhopal, Gwalior, Jabalpur, Indore, Dewas, Maksi (all in Madhya Pradesh); Hyderabad,

Table 2.1: Shrinking sources, Growing demands

Cities	Earlier	Distance (Kms)	Present source	Distance	New source	Distance (kms)
Bhopal	Upper Lake Hathaikhera	within city	Kolar Reservoir	35 Kms	Narmada (Shahganj)	80
Indore	Sirpur Tank Bilaoli Lake Yashwant Sagar Dam	within city 40	Narmada Phase I & II	70 Kms.	Narmada Phase II	70
Jaipur	Talkatora	within City	Ramgarh Lake groundwater	48 Kms.	Bisalpur Dam	130
Delhi	Hauz Khas Hauz-I-Shamsi Baolis Johads	within city	Yamuna Bhakra Ganga	within city 175 Kms.	Tehri Dam	
Chennai	Chovalam Red Hills and Poondi	20-25	Veeranam	235	A.K. Basin	25-30

Visakhapatnam (Andhra Pradesh); Borai (Chhattisgarh); Bangalore (Karnataka); Chennai, Tirapur (Tamil Nadu); Rajkot, Ahmedabad (Gujarat); Pune, Sangli-Miraj (Maharashtra); Haldia (West Bengal); Jamshedpur (Jharkhand); Noida (Uttar Pradesh); Delhi, Kakinada and a few others.

To privatise the urban water supply the concerned states must undertake the restructuring of the water resources within their territories. Accordingly, many states have entered into loan agreements either with the World Bank or the Asian Development Bank (ADB) for water sector restructuring. These loan agreements go beyond the privatisation of the urban water supply and make deep encroachments in the area of water tariffs in irrigation. To justify the sharp increase in such water tariffs, the loan agreements correspondingly increase the property tax, in some cases by as much as 200%. In addition, new taxes will also be imposed, e.g., for sewer drainage, sanitation and investment return. The above loan agreements may eventually prove a death-knell for small and marginal farmers (those with less than 2 acres of land), who constitute 82% of the farmers. The total quantum of loans taken in these 18 water sector projects is a staggering US $ 3027.70 mn or Rs 14,475.20 crore (barring the 2004 Karnataka Coastal Area Water Management Project). Besides, the contract of the Kerala Urban Water Supply Project has also been signed, under which the water supply systems in large and medium towns will be privatised. Another project, SWAJAL (with a World Bank loan), is being implemented in Uttaranchal since the last few years. On March 29, 2004, the ADB has also granted a loan of US $ 46.1 mn to Chhattisgarh for water sector reforms.

The clause on private sector participation was incorporated in the Water Policy document of various states. In the Maharashtra State Water Policy (First Draft), this clause was reproduced verbatim. Worse still, the entire structure of the State Water Policy, heading by heading, was an exact replica of the 2002 Water Policy. The Water Policy of the Government of Karnataka has more or less used the same words in the paragraph relating to privatisation. The Government of Andhra Pradesh has also begun the water privatisation processes. Already, some 30 cities in Maharashtra, Karnataka, Andhra Pradesh and Rajasthan are bidding their respective municipal water supply to a handful of powerful MNCs, even though the experiences from cities of other developing countries show that the privatised and commercialised supply of water often deprives the poorer and marginalised sections of society of their basic right to water. Tiruppur in Tamil Nadu and Hubli-Dharwad in Karnataka have moved closer to privatising their water utilities. New Delhi's water supply will soon be in the hands of Vivendi

These policies, pushed by the World Bank and ADB, have the underlying thrust of converting the whole sector into a market. The reform agenda ensures full cost recovery, elimination of subsidies, public-private partnerships, allocation of water to

highest value use through market mechanism.This is taking place in several states in specific projects. Some of the projects already commissioned are the Sonia Vihar project of New Delhi, the Sheonath river case etc.

The sector reforms are being mainly pushed through the World Bank loans to various states for the Water Sector Restructuring (WSR) projects. (In India, water is a state subject and the state governments have the main role to play as far as policy and projects and programs go). There have been WSR projects in several states including Madhya Pradesh, Maharastra, Uttar Pradesh and Rajasthan.

Loans for Water supply utilities, irrigation sector and for water sector restructuring are available from International Funding Agencies like OECF(JBIC), World Bank, ADB, KfW, USAID, etc. Grant funds are available from Donor Agencies like DANIDA, DFID, CIDA, National Trust/Missions who also encourage privatization. The role of these financing agencies as "facilitators of change" / facilitators of commercialization and privatization is to apply the Principles of "user-pay", Principle of full cost recovery, Tariff fixation including annual incremental cost, O&M cost, debt dues, depreciation charges etc., compulsory 100% metering and involvement of private sector.

Route to Private Sector Participation

The concept of Public-Private -Partnership is generally seen as one of these models:

Build-Operate-Transfer (BOT)
Build-Operate-Own-Transfer (BOOT)
Build-Operate-Lease-Transfer (BOLT)
Rehabilitate-Operate-Transfer (ROT)
Design-Build-Finance-Operate-Transfer (DBFOT)

In India, increasing instances of Private Participation in water supply & sanitation Projects being taken up as, service Contracts, Management Contracts, Lease, Concession, BOT/BOOT etc. Some instances are,

- Bangalore water supply project as a BOOT arrangement for sourcing 500 mld water.
- Chennai Metro Water in which out of 119 Sewerage Pumping Stations, Operation & Maintenance of 70 is carried out by private sector

Private Sector Participation in water supply and sanitation on the anvil in various cities are; Nagpur, Dewas, Kolhapur, Cochin, Vishakhapatnam, Dharwad, Goa, Alandur, Mysore, Mangalore, Hubli, Dharwad, and Gulbarga.

Role of Multilateral and Bilateral Agencies

Both the ADB and the World Bank are actively pushing the privatisation and commercialisation of water in the country through its sector restructuring loans. The ADB and the WB are disbursing loans as Urban Water Supply loans or Urban Infrastructure loans. For example ADB has a $ 214 million loan for the Urban Water Supply to the state of Madhya Pradesh and Rs. 69 million for Jaipur city water supply alone. The WB is considering a similar loan for state of Gujarat for 100 m $. These loans are blatantly pushing for privatisation and commercialisation of the urban water supply. There is already a BOOT project on offer for the privatisation of the water supply to Indore, the biggest city and commercial capital of state of Madhya Pradesh. The estimated cost of the project is around $ 100 m. These loans are being offered after a detailed study by Price water house Coopers study for the Word Bank without consultations with the major stakeholders. Another important aspect of the urban water supply projects funded by World Bank / ADB is that the projects fund the water supply but do not take any responsibility to address the impacts of the source of water for this supply – namely large dams.

It is interesting that the World Bank, along with some of the other bi-lateral donors is also playing another very significant role in the sector privatisation and commercialisation. That role is in the creation of the "intellectual" and other support to build up the rationale and justification of privatisation through "research" and "studies". The bilaterals have come together to launch a program called Water and Sanitation Program which is hosted by the World Bank, and the WB along with the WSP is coming out with a large number of studies. These agencies have massive resources at their command and have commissioned highly paid consultants to carry out surveys and studies. DFID is also playing a significant role in this. Even the ADB has commissioned such studies. This is a very important part of pushing

the privatisation and needs to be countered effectively through civil society research.

WTO and GATS

There a strong push, especially from the EU to include water services in the General Agreement on Trade in Services (GATS) of the WTO. The "Requests" made by the EU in early 2003 to India included request for the opening up of the water supply. It should be mentioned that the implications of opening up the sector under GATS (as against an "autonomous" opening as is happening now) are far more serious. The inclusion of water services in GATS will mean that the opening up of the sector will be virtually irreversible, and will severely constrain the Government's ability to regulate the sector in terms of public interest policies.

Role of Other Agencies

Several other agencies are also playing a part in pushing the privatisation agenda. The Corporate sector is of course one of the important ones. Most of the major players are present in India – Suez, Vivendi, Thames Water, Bechtel. They are also participating in several projects and are also involved in "promotional" activities like sponsoring seminars and training sessions.

Confederation of Indian Industries (CII) is another entity which is pushing Interlinking of rivers and Public-private partnership.

The international consulting agencies have been preparing water sector plans or strategies for the states. Price Waterhouse Coopers, Halcrow and Lea Associates are some of the agencies working towards this.

The World Bank Privatisation Kit

The World Bank recognizes that full-fledged privatization is not easy, given the emergence of movements for water democracy, and given the failure of privatization projects. On the World Banks own records, 50% privatization projects have had to be abandoned.

Instead of reviewing its policy of giving preference to the private sector, the World Bank has now come up with a "Toolkit" for governments on "selecting an option for Private Sector Privatisation". The options

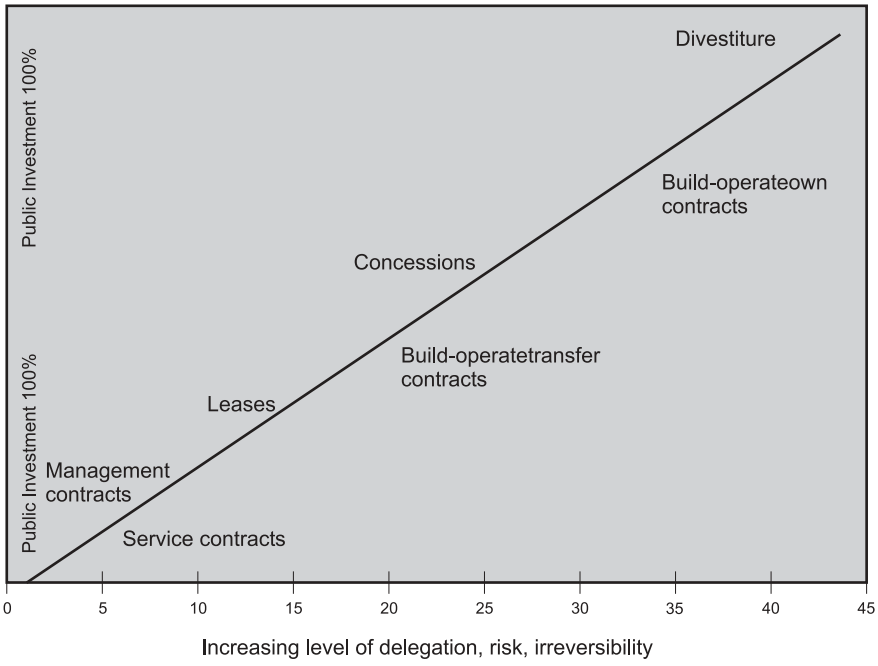
Table 2.2: Showing Private Sector Initiatives in the Water Sector

City	Cost (Rs. Million)	Form of Private Sector Participation	Water purchase agreement (million litres per day)	Creditors' Security	Status
Tiruppur, Tamil Nadu	15,000	BOT	185	State Govt. Guarantee	Financing being arranged
Bangalore, Karnataka	13,000	BOOT	500	State Govt. Guarantee	Evaluation underway
Hyderabad, Andhra Pradesh	5,000	BOOT	410	State Govt. Guarantee	Project abandoned
Cochin, Kerala	4,000	BOT	200	State Govt. Guarantee	Project abandoned
Pune, Maharashtra	7,500	BLT	180	Debt provided by State	Project abandoned
Panjim, Goa	3,000	BOOT	165	State Govt. Guarantee	Project may be relet as full concession

Table 2.3: Showing Allocation of Key Responsibilities Under the Main Private Sector

Option	Asset Ownership	Operations and Maintenance	Capital Investment	Commercial Risk	Duration
Service Contract	Public	Public and private	Public	Public	1-2 years
Management Contract	Public	Private	Public	Public	3-5 years
Lease	Public	Private	Public	Shared	8-15 years
Concession	Public	Private	Private	Private	25-30 years
BOT/BOO	Private and Public	Private	Private	Private	20-30 years
Divestiture	Private or Private and Public	Private	Private	Private	Indefinite (may be limited by license)

Figure 1
The range of options



range from Service Contract, Management Contract, Lease, Concession, BOT, BOO and Divestiture.

Service Contracts

Service contracts secure private sector assistance for performing specific tasks – installing or reading meters, monitoring losses, repairing pipes, or collecting accounts. They are typically for short periods, from six months to two years. Their main benefit is that they take advantage of private sector expertise for technical tasks or open these tasks to competition. They leave the responsibility for coordinating tasks with public utility managers. They also leave the responsibility for investment with the public sector.

Service contracts are widely used. In India, Madras Metro Water has contracted services ranging from the provision of staff cards to the operation and maintenance of sewage pumping stations. The water utility in Santiago de Chile has contracted out services accounting for about half its operating budget, including computer services, engineering consulting services, and repair, maintenance, and rehabilitation of the network. To enhance competition, the Santiago utility has at least two service contracts for each of its task.

Although relatively simple, service contracts must be carefully specified and monitored. If a utility is poorly managed, its service contracts probably will be too. Service contracts are at best a cost effective way to meet special technical needs for a utility that is already well managed and commercially viable. They cannot substitute for reform in a utility plagued by inefficient management and poor cost recovery.

Management Contracts – a good first step

Management contracts transfer responsibility for the operation and maintenance of government owned businesses to the private sector. These contracts are generally for three to five years. The simplest involve paying a private firm a fixed fee for performing managerial tasks. More sophisticated management contracts can introduce greater incentives for efficiency, by defining performance targets and basing remuneration at least in part of their fulfillment. To be worthwhile, these more complex management contracts must produce efficiency gains large enough to offset the regulatory costs of establishing targets and monitoring performance against them.

Specifying clear and indisputable targets is often difficult, especially when information about a system's current performance is limited. Some targets may be beyond the private sector partner's power to achieve. For example, unaccounted for water is a good

Management contracts – a step towards greater private sector participation

Management contracts can be a good first step towards more full-fledged private sector involvement where conditions make it difficult for the government to commit to a long-term arrangement or to induce the private sector to undertake capital investment or accept commercial or political risk. A management contract might be chosen, for example, where:

- Tariffs are too low to support a commercial operation, and the government needs time to increase tariffs or develop a system of public subsidies compatible with private sector participation.
- The regulatory framework has defects that need to be remedied before a long-term private sector arrangement can be secured.
- The country lacks a good track record in public-private partnerships.
- The government faces difficulties in getting key stakeholders to agree to long-term involvement of the private sector.

In such conditions a management contract can provide a window of opportunity for developing trust between the public and private sectors and for the government to create an environment more conducive to private sector risk taking. This was the approach adopted in Mexico City and in Trinidad and Tobago.

Where lack of information about the system is a problem, a requirement to collect and disseminate this information can be included in the management contract. But making the contract holder responsible for gathering information could give it an advantage in bidding for a longer tem lease or concession. Appointing an independent engineer or author can help ensure equitable access to the information produced by the management contractor.

Stepwise approaches beginning with a management contract are the good way to secure at lease some private sector involvement in risky countries, but there is no guarantee that they will go beyond the first step. Because decisions about involving private companies in the water sector can be politically costly, governments may be unwilling to move beyond a management contract, especially if they have not raised tariffs to cost recovery levels. Governments may also be lulled into the false sense of security if a management contract provides just enough gains to keep voters happy – even if many people still lack adequate services. Management contracts can be good at improving services for those who already have water and sewerage connections, but they typically do little for those lacking connections, who often have less political power. So, when management contracts are meant to be transitional, they should include incentives for the next steps, such as triggers for reallocating risks and responsibilities once specified conditions have been met.

indicator of a system's efficiency, but it can be hard to measure- especially if metering is inadequate – making it difficult to establish a meaningful base for evaluating the operator's performance. And the operator's ability to reduce unaccounted for water may depend not only on its efforts to reduce leaks but also on the resources that the government makes available for rehabilitating pipelines. There is often a fine dividing line between operations and maintenance expenditure, for which the private operator is responsible, and capital investment, for which the government is responsible – and both will affect the operator's performance.

Because management contracts leave all responsibility for investment with the government, they are not a good option if a government has one of its main objectives accessing private finance for new investments. And because they do not necessarily transfer any of the commercial risk to the management contractor, they draw little on private sector incentives to reduce costs and improve the quality of services.

Management contracts are most likely to be useful where the main objective is to rapidly enhance a utility's technical capacity and its efficiency in performing specific tasks, or to prepare for greater private involvement.

Lease – a way to pass on commercial risk

Under a lease arrangement a private firm leases the assets of a utility from the government and takes on the responsibility for operating and maintaining them. Because the lessor effectively buys the rights to the income steam from the utility's operations

(minus the lease payment), it assumes much of the commercial risk of the operations. Under a well structured contract the lessor's profitability will depend on how much it can reduce costs (while still meeting the quality standards in the lease contract), so it has incentives to improve the operating efficiency.

Leases have been widely, used in France and Spain and are currently in place in the Czech Republic, Guinea, and Senegal. They were also used in Cote d'Ivoire until replaced by a concession.

Leases leave the responsibility for financing and planning investments with the government. So if major new investments are needed, the government must raise the finance and coordinate its investment program with the operator's operational and commercial program.

Leases are most appropriate where there is scope for big gains in operating efficiency but only limited need or scope for new investments. Leases have also sometimes been advocated as stepping-stones towards more full-fledged private sector involvement through concessions. But their administrative complexity and the demands they place on governments for commitment are nearly as great as those of concessions – so a lease is a much bigger first step than a management contract.

"Pure" leases are rare, however, most place some responsibility for investment on the private partner, if only for rehabilitation works. These contracts operate as a hybrid between a lease and a concession contract.

Concessions – a route to full-fledged private participation

A concession gives the private partner responsibility not only for the operation and maintenance of a utility's assets but also for investments. Asset ownership remains with the government, however, and full use to all the assets, including those created by the private partner, revert to the government when the contract ends – usually after 25-30 years. Concessions are often bid by price; the bidder that proposes to operate the utility and meet the investment targets for the lowest tariff wins the concession. The concession is governed by a contract that sets out such conditions as the main performance targets (coverage, quality), performance standards, arrangements for capital investment, mechanisms for adjusting tariffs, and arrangements for arbitrating disputes.

Concessions have a long history of use in infrastructure in France. And recently they have spread to the developing world, where they have been used for water and sanitation in Buenos Aires, for water in Macao, and for sewerage in Malaysia.

The main advantage of a concession is that is passes full responsibility for operations and investment to the private sector and so brings to bear incentives for efficiency in all the utility's activities. The concession is therefore an attractive option where large investments are needed to expand the coverage or improve the quality of services.

On the government's side, administering a concession is a complex business, however, because it confers a long-term monopoly on the concessionaire. The quality regulation is therefore important for determining the success of the concession, particularly the distribution of its benefits between the

Joint venture leases and concessions

In such countries as Spain it has become common for governments—national, regional, and local— to establish joint ventures with the private sector to run leases and concessions. A typical joint venture creates a new company, with the state entity holding 51 percent of the equity and the private operator or a financial institution (or both) holding the remaining shares. By limiting the private sector's control, these joint ventures can help secure stakeholders' agreement to private sector participation. And by demonstrating public commitment to the venture, they can reduce the private sector's perception of risk. But they can create conflicts of interest if the same government entity is both the regulator of the utility company and its part owner. Another issue is the extent to which the private firm can exercise management control, especially if it has only a minority shareholding in the joint venture. Without such control the private firm may not feel that its interests are protected and may not be able to produce the efficiency gains expected from private involvement. Most joint ventures address control issues through detailed clauses in the company's by-laws allowing both parties to vet key managerial appointments. These clauses may foster partnership, but they can also complicate the utility's governance.

concessionaire (in profits) and consumers (in lower prices and better services).

Build-operate-transfer contracts—a solution for bulk supply and treatment problems

Build-operate-transfer (BOT) arrangements resemble concessions for providing bulk services but are normally used for greenfield projects, such as a water or wastewater treatment plant. In a typical BOT arrangement a private firm might undertake to construct a new dam and water treatment plant, operate them for a number of years, and at the end of the contract relinquish all rights to them to the public utility. The government or the distribution utility would pay the BOT partner for water from the project, at a price calculated over the life of the contract to cover its construction and operating costs and provide a reasonable return. The contract between the BOT concessionaire and the utility is usually on a take-or-pay basis, obligating the utility to pay for a specified quantity of water whether or not that quantity is consumed. This places all demand risk on the utility. Alternatively, the utility might pay a capacity charge and a consumption charge, an arrangement that shares the demand risk between the utility and the BOT concessionaire.

BOTs have been used for water treatment in such countries as Australia and Malaysia and for sewage treatment in Chile and New Zealand.

BOTs tend to work well if the main problem a utility faces relates to water supply or wastewater treatment. But if the problem is a faulty distribution system or poor collections performance, a BOT is unlikely to remedy it—and may even aggravate it.

Where private sector participation is needed both to provide new bulk services (a reservoir or a water or wastewater treatment plant) and to improve the performance of or expand distribution systems, separating these tasks under different contracts and bidding processes may have advantages. Separating the tasks maximizes the potential efficiency gains from competitive bidding and reduces the monopoly power given to a single company.

There are many possible variations on the BOT model, including build-operate-own (BOO) arrangements, in which the assets remain indefinitely with the private partner, and design-build-operate (DBO) arrangements, in which the public and private sectors share responsibility for capital investments. BOTs may also be used for plants that need extensive overhauls—in arrangements sometimes referred to as ROTs (rehabilitate-operate-transfer).

Full or partial divestiture—another route to full-fledged private participation

Divestiture of water and sewerage assets—through a sale of assets or shares or through a management buyout—can be partial or complete. A complete divestiture, like a concession, gives the private sector full responsibility for operations, maintenance, and investment. But unlike a concession, a divestiture transfers ownership of the assets to the private sector, so the nature of the public-private partnership differs slightly. A concession assigns the government two primary tasks: to ensure that the utility's assets—which the government continues to own—are used well and returned in good condition at the end of the concession and, through regulation, to protect consumers from monopolistic pricing and poor service. A divestiture leaves the government only the task of regulation, since, in theory, the private company should be concerned about maintaining its asset base.

But private companies may not always take the long view. Even with an asset sale, the regulator may need to scrutinize the utility's plans for renovating or enhancing its assets. In England and Wales the regulator requires utilities to report the serviceability of their assets.

Although widely used in other infrastructure sectors, divestitures in the water and sanitation sector have been limited to England and Wales. (Private water companies have also long operated in the United States.) Given the national economic importance of infrastructure services, governments are generally unwilling to divest water and sanitation assets without introducing safeguards. The U.K. government retains "safety net" powers to appoint another operator in case a water company fails. It also limits the length of the licenses under which water companies operate.

Even though governments may find divestiture ideologically or even constitutionally difficult to contemplate, they should not dismiss it without

evaluation. In some circumstances divestiture may be more appropriate than a concession. Where the public sector utility is technically capable, for example, divestiture by sale of shares or management buyout may produce the required efficiency gains without involving the foreign water conglomerates that typically dominate bids for concessions.

It could also help develop local private firms capable of working in water and sanitation. (This strategy is most likely to be effective where local financial institutions are well developed.)

The myth of private sector participation is that MNCs "inject large scale investment capital into the sector". However, all privatization projects in india are based on World Bank/ADB/DFID loans. Corporations do not bring investments they take out profits.

The public thus pays six times over.

Firstly, through interest payments on World Bank loans

Secondly, through increased tariffs

Thirdly, through costs of providing water and energy for free to the private company

Fourthly, through guarantees, which ensure corporations get paid even if the contract is abandoned and they fail to provide water

Fifthly, through unemployment created by private corporations shedding employees in water utilities

Sixthly, through depletion and diversion of limited water resources for privatization projects.

The alternative to private sector participation and private-public partnership is public-public partnership as we have evolved in a proposal drawn up by the RFSTE and water workers Alliance.

3

World Bank Funded Major Projects in Water Sector[1]

(i) Projects During 1953–1990

During the period of 1953-1990 the World Bank financed large dams, deep wells and unsustainable irrigation.

Millions of people were displaced, million of acres land wasted due to water logging and salinisation, millions of cubic meters of waters were withdrawn from rivers and ground water aquifers. Nearly 4812 million dollars of water related loans left India with a severe water crisis. On this huge sum, at the rate of 11% per annum country is paying around 530 million dollar annual interest to World Bank.

1. Damodar Multi-purpose Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	23 January 1953
Closing Date	30 June 1958
IBRD + IDA Commitment (Million Dollars)	19.5
Total Project Cost (Million Dollars)	19.5

World Bank Claim

The Second Damodar Valley Corporation Project in India provided financing for the cost of material and equipment for power-houses, dams and barrages, earth-moving machinery, and engineering services. This project consisted of five additional projects in the plan relating to flood control, electric power, irrigation, navigation, and fisheries. The proceeds of the loan were used to acquire material and equipment from abroad needed for the construction of the two storage dams, two hydro-electric plants, a barrage on the Damodar River, and a number of irrigation canals fed by the barrage, the largest of these canals was to be used for navigation. The two hydro-electric plants had an installed capacity of 60,000 kw and 40,000 kw. This project provided adequate supplies of power and water for the continued development for India economy.

Reality : Project did not rehabilitate the displaced people. It did not provide adequate measures relating to flood control and also failed to supply power and water for the development of the country.

2. Koyna Power Project

Basic Information

Major Sector	(Historic) Electric Power & other Energy (Historic) Hydro (100%)
Approval Date	8 April 1959
Closing Date	30 April 1965
Borrower	N/A
IBRD + IDA Commitment Million Dollars	25.0
Total Project Cost Million Dollars	25.0

World Bank Claim

The project included, a transmission line to Bombay, and a transmission line south of the project to serve a number of small towns, villages, and their small

[1] World Bank Website

industries. Stage I, had an installed capacity of 240 MW; Stage II provided an additional 240 mw, and water storage for irrigation; Stage III utilized the tailrace waters of the Stage II power plant and irrigation water, and it will add an additional 90 mw. The continually growing demand for power required the provision of new generating capacity of the magnitude of Koyna and the development of this project was the most economical method of providing the power.

Reality : The project did not rehabilitate the large number of displaced people. Koyna dam induced the seismic activities, causing the earthquake and tremors. Koyna dam was not the best economical method to provide electricity.

3. Second Koyna Power Project

Basic Information

Major Sector	(Historic) Electric Power & other Energy (Historic) Hydro (100%)
Approval Date	8 August 1962
Closing Date	30 September 1970
Borrower	N/A
IBRD + IDA Commitment	17.5
Total Project Cost	17.5

World Bank Claim

The Second Koyna Hydroelectric Project provided financing for the hydroelectric project, south east of Bombay in the state of Maharashtra. The Koyna development was carried out in three stages: Stage I, provided capacity of 240 MW; Stage II, added 340 MW; and Stage III, provided 100 MW in a tailwater plant. This project consisted of: (a) raising the height of the dam from elevation 2, 107 feet to its designed height of 2,180 feet; (b) completing the Koyna underground power station and installing four 75 MW Pelton type turbo-generating sets with transformer equipment, (c) constructing a small power station at the base of Koyna dam with two Kaplan type turbo – generating units of 20 MW each; (d) expanding the 220k switchyard; (e) constructing a 45 mile 220 kv double circuit line to the site of a new aluminum factory to be located at Jaigad; and (f) supplementing the transmission capacity toward Bombay. The demand for electricity in the Bombay-Poona area warranted substantial additions to generating capacity of the system serving this area as soon as possible. The completion of the second Stage of the Koyna development was the quickest and most economical method of providing this additional capacity.

Reality : Second Koyna project like the first Koyna project did not rehabilitate the displaced population which became the victim of indebtedness. This was not the cost-effective way to generate electricity.

4. Uttar Pradesh Tubewell Irrigation Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	6 September 1961
Closing Date	30 September 1964
IBRD + IDA Commitment (Million Dollars)	6.0
Total Project Cost (Million Dollars)	6.0

World Bank Claim

The Uttar Pradesh Tubewell Irrigation Project provided financing for the irrigation of water to regions that had insufficient precipitation, which were not within reach of canal irrigation systems. This project consisted of 530 slotted-pipe wells, and 270 strainer wells, which were drilled to an average depth of 300 to 400 feet, with an average capacity of 1.5 cusec. It was to be equipped with pumps driven by electric motors with power supplied from the State grid system. The general objectives of the program were to increase agricultural production in the State of Uttar Pradesh by providing irrigation water to regions that had insufficient precipitation and were not within the reach of canal irrigation systems.

Reality : The slotted pipewells and strainer wells to the depth upto 400 feet resulted in the depletion of

groundwater. The programme did not increase agriculture production upto the desired level.

5. Sone Irrigation Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	29 June 1962
Closing Date	31 December 1967
IBRD + IDA Commitment (Million Dollars)	15.0
Total Project Cost (Million Dollars)	15.0

World Bank Claim

The Sone Irrigation Project in Bihar provided financing for the improvement of the water supply. This project consisted of the construction of a new barrage across the Sone River to replace the existing diversion weir, headworks and navigation channels located at the new barrage were connected to the existing canal system by link canals, remodeling and extension of the existing irrigation system. The new structure provided better regulation of river flow and head for water supply. The project improved the water supply for 733,000 acres of crops presently irrigated each year and made possible the irrigation of about 300,000 additional acres of crops.

Reality : The new structure did not provide better regulation and water supply flow. There was not much addition to the irrigation.

6. Godavari Barrage Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	11 February 1975
Closing Date	30 June 1981
IBRD + IDA Commitment (Million Dollars)	45.0
Total Project Cost (Million Dollars)	45.0

World Bank Claim

The purpose of the project was to ensure continued availability of perennial irrigation water in the 400,000 ha command area of a 120 year old weir, which was in danger of collapse. The project consisted of the completion of a new barrage, which would replace the old weir. The barrage had four sections, totaling 3600 meters in length, across the four branches of the river. It divided into 175 bays, each equipped with a spillway gate, and raised the pond level to 13.64 meters. The project included preparatory studies for a second phase project, which concentrated on command area development, and technical assistance to Government of India for the preparation of command area development projects in other States of India.

Reality : Instead of ensuring continued availability, the preparation studies helped in furtherance the cause of World Bank. Command area development led to chemical farming causing higher use of water.

7. Chambal Command Area Development Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	17 June 1975
Closing Date	30 June 1981
IBRD + IDA Commitment (Million Dollars)	24.0
Total Project Cost (Million Dollars)	24.0

World Bank Claim

The Chambal Command Area Development Project consisted of: (i) irrigation improvement comprising lining of 11 km of the main canal; construction of 77 control structures; increasing the carrying capacity of 400 km of canals; implementing a full package of on-farm development on a 12,000 ha area; providing drainage networks and improving 200 km of natural drains in the chaks; (ii) construction and improvement of 206 km village access roads; (iii) a pilot project for ravine erosion

control; (iv) strengthening agricultural extension and research services and the cooperative system; (v) carrying out feasibility studies for further staged development of the project area, covering ground-water exploitation, canal lining to increase delivery efficiency, reuse of return water flows, reclamation of saline and alkaline soils, improvement of district roads and further intensive on-farm development in the command area; (vi) technical assistance to Government of India for preparing future command area development projects.

Reality : Chambal Command Area Development resulted in the intensive chemical farming leading to water wastage. There was no adequate drainage channel and no agriculture extension services.

8. Canal Command Area Development Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	16 July 1974
Closing Date	30 June 1983
IBRD + IDA Commitment (Million Dollars)	83.0
Total Project Cost (Million Dollars)	83.0

World Bank Claim

The project consisted of: (a) land development, including mechanized leveling of about 32,000 ha of land, reclamation of about 17,000 ha o saline soils, and construction and lining of about 5,800 km of water courses; (b) lining of about 915 km of branch, distributary, and minor canals; (c) afforestation and sand dune stabilization (d) construction of 430 km of major, market, feeder and village roads; (e) procurement of 46,000 nutrient tons of fertilizer and its distribution to project farmers; (f) construction of sanitary water supply systems in 100 project area villages; (g) provision of vehicles, equipment, and housing for project administration and agricultural support services; and (h) strengthening of agricultural research and extension in the project area.

Reality : Command area development led to the intensive water use and water wastage. There was no afforestation and sand-dune stabilization. It resulted in the poor extensions services.

9. Irrigation Project – Karnataka

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	4 April 1978
Closing Date	31 March 1986
IBRD + IDA Commitment (Million Dollars)	126.0
Total Project Cost (Million Dollars)	126.0

World Bank Claim

The Karnataka Irrigation Project consisted of: (a) completion of the Almatti and Narayanpur dams, and resettlement of about 13,000 displaced families; (b) completion of the Narayanpur Left Bank Canal (including construction of two tunnels) and construction of the Shahapur Brach Canal; (c) provision of irrigation distribution and drainage systems serving about 105,000 ha, and of field irrigation channels for about 80,000 ha; (d) rehabilitation and upgrading of about 70 km of existing village and link roads, and construction of about 530 km of new village and link roads; (e) on-farm works and construction of field drainage channels; (f) establishment of a Land Development Training Centre, an agricultural development center, an agricultural research stations, and of other research facilities; (g) a program to monitor water use efficiencies and to evaluate the economic and social impact of the project; and (h) procurement of vehicles and equipment for road construction, operation and maintenance, for agricultural services, for the Land Development Training Center, for project monitoring.

Reality : There was no rehabilitation and resettlement of the displaced persons. Project did not provide proper drainage and distributory channels and field channels.

10. Irrigation Project – Orissa

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	6 September 1977
Closing Date	31 October 1983
IBRD + IDA Commitment (Million Dollars)	58.0
Total Project Cost (Million Dollars)	58.0

World Bank Claim

The purpose of the Project was to utilize the numerous small rivers located throughout the State for providing irrigation to about 66,000 ha of land throughout the State of Orissa, where large scale irrigation or groundwater development was not possible. The Project also aimed to improve water use efficiency at the farm level in existing major irrigation systems. The Project consisted of: (a) over the next five years, construction of about 15 medium-scale irrigation projects (MIPs) (b) command area development (CAD), over a four year period, in three existing major irrigation projects located in Orissa (Mahanadi Delta, Hirakund, Salandi), consisting of land consolidation covering about 200,000 ha; and on-farm works, including construction of field channels, drains, and structures covering a consolidated area of about 57,000 ha.

Reality : Command area development led to higher use of water. Instead of increasing water use efficiency, it deteriorated. The project also failed to utilize small rivers.

11. Punjab Irrigation and Drainage Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (97%)
Approval Date	14 December, 1989
Closing Date	31 July, 1998
IBRD + IDA Commitment (Million Dollars)	165.0
Total Project Cost (Million Dollars)	246.5

World Bank Claim

The project's objectives were to improve the productivity of the existing irrigation systems, raise living standards through the development of irrigation facilities, initiate drainage works, trials and studies to address the various impacts of the rising water table in the state of Punjab and finally, upgrade the efficiency and skills of the Irrigation Department. The project's components were the following:

1. Improved irrigation efficiency, 2. agricultural development in the poorest areas of the state by developing the Kandi Canal, constructing public tubewells and low dams in the Kandi tract, as well as lift irrigation facilities in areas adjoining the Sutlej – Yamuna link canal, 3. drainage works, and 4. institutional development.

Reality : Project failed to improve the irrigation facility, did not address the problem of rising table. Public tube-wells depleted the water table in the State.

12. Haryana Water Resources Consolidation Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (47%)
	Water, sanitation and flood protection (Water supply) (46%)
Approval Date	29 March, 1994
Closing Date	31 December, 2001
IBRD + IDA Commitment (Million Dollars)	258.0
Total Project Cost (Million Dollars)	483.4

World Bank Claim

The project was a sector investment loan, financing an agreed state-wide program to improve the water distribution and drainage systems, and upgrade institutional capacity for water management and planning in the State of Haryana. The primary objectives of the project were to: (1) introduce water resource planning; (b) enhance agricultural productivity and diversification, and improve equity; (c) assure sustainability of the environment; and (d) improve Haryana Irriga-

tion Department's capabilities in all water related functional areas. The project financed four investments under the areas of the Bhakra Canal system and Western Yamuna Canal system of the state and they are: (1) rehabilitation of the existing canal and drainage systems, and selective lining of canals and watercourses; (2) modernization of canal and drainage systems and watercourse, replacement of the Hathnikund Barrage, and construction/extension of minors; (3) upgraded operation and maintenance (O & M) of the water distribution and drainage system; and (4) institutional strengthening to support administration, data collection, planning design, beneficiary participation and formation of Water User Associations, research and training.

Reality : Project provided unsustainable agriculture, no upgradation of operation and maintenance of water distribution, no participation of beneficiaries and there was no water resource planning.

13. Irrigation Project – Bihar Public Tubewells

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	16 October, 1986
Closing Date	31 May 1994
IBRD + IDA Commitment (Million Dollars)	68.00
Total Project Cost (Million Dollars)	68.00

World Bank Claim

By (i) introducing improved tubewell technology; (ii) undertaking a phased program to rehabilitate and modernize most of Bihar's existing public tubewells (PTWs); and (iii) strengthening the institution responsible for PTW activities. The tubewell irrigation systems to be rehabilitated or constructed under the project was be distributed in 26 of Northern Bihar's 38 administrative districts. The Bihar Public Tubewell Project was comprised a seven-year program and supported several components. They were comprise : (i) construction of about 500 new public tubewells; (ii) modernization of about 1000 existing tubewells; (iii) rehabilitation of about 3700 other existing tubewells; and (iv) construction of powerlines to about 5200 tubewells so that sufficient power is available to achieve planned irrigation intensities. (v) improvement in management capability and provision of technical services.

Reality : The intensive tubewell irrigation system in Bihar depleted the water to an alarming level which became a cause of major heath problem due to the presence of Arsenic in the underground water. There was no improvement in management capability. Tubewell irrigation also regulated in higher cost of irrigation.

14. Second Upper Krishna Irrigation Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (90%)
Approval Date	4 May 1989
Closing Date	30 June 1997
IBRD + IDA Commitment (Million Dollars)	325
Total Project Cost (Million Dollars)	325

World Bank Claim

The project supported phase II of the first stage of the Upper Krishna Program, which was a long term 2-stage, multi-phase plan to develop the irrigation potential of the Upper Krishna river. The project comprised two major components. Under the irrigation component the project included: (i) raise the Almatti dam to an elevation of 509 M; (ii) construct distributary canals, and field irrigation channels; (iii) provide on-farm development; (iv) construct and equip a Water and Land Management Institute; (v) provide aerial photography and photogrammetric mapping for the Krishna river basin; (vi) construct and provide equipment for the irrigation system and a management information system; and (vii) provide technical assistance. Under the resettlement and rehabilitation component the project provided for the restoration of livelihood of the project affected population to at least pre-project levels.

Reality : The increase in the height of Almati dam did not produce desired result. There was no farm

development and no proper resettlement and rehabilitation component for the livelihood of the project affected population. Command area development was linked to chemical farming and water wastage.

15. Third Irrigation – Maharashtra Composite Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Agricultural extension and research) (10%) Agriculture, fishing, and forestry (Irrigation and drainage) (70%) Transportation (Roads and highways) (20%)
Approval Date	16 July 1985
Closing Date	31 December 1996
IBRD + IDA Commitment (Million Dollars)	160.0
Total Project Cost (Million Dollars)	160.0

World Bank Claim

The Maharashtra Composite Irrigation III Project encompassed two command areas: Jayakwadi (200,000 ha) and Majalgaon (100,000 ha). The main components for Jayakwadi were be: (i) completion of irrigation systems on about 45,500 ha; (ii) completion of main drains, link drains, and rural roads on about 153,000 ha; (iii) construction of field channels, drains, and structures on about 68,000 ha and field-channel protection on about 102,000 ha; (iv) landshaping of about 128,000 ha; (v) development of three Specially Developed Distributories on about 7,300 ha; and (vi) technical support to farmers. For Majalgaon, the project included; (i) constructing 116 canal regulation structures; (ii) construction of Majalgaon main canal from km 67 to km 100; (iii) construction of the distribution system up to the 1-cusec outlet in an area of about 57,000 ha; (iv) construction of main and secondary drainage and road networks on about 24,000 ha; (v) on-farm developments and landshaping of about 24,000 ha; (vi) development of a Majalgaon SDD on 4,000 ha; and (vii) technical support to farmers. The project was expected to increase the agriculture production and farmers incomes.

Reality : There was no proper land shaping and on-farm development. Project failed to increase agriculture productivity and farmers income.

16. Irrigation Project – West Bengal Minor

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	2 July 1985
Closing Date	31 March 1994
IBRD + IDA Commitment (Million Dollars)	99.0
Total Project Cost (Million Dollars)	99.0

World Bank Claim

The West Bengal Minor Irrigation Project comprised a five year program for upgrading and constructing public tubewell irrigation systems, open dugwells, and riverlift installations. It supported construction of about: (i) 3,400 deep tubewells (DTWs); (ii) 5,400 shallow tubewells; and (iii) 10,000 open dugwells. It will further finance completion of the distribution systems of about 200 riverlift installations (RLIs), improvements to managements and agricultural production and the standard of living of small and marginal farmers in West Bengal.

Reality : Construction of all kinds of wells, tubewells and deep wells failed to improve agricultural production and standard of living of marginal and small farmers. Tubewell irrigation led to the depletion of water table and higher cost of irrigation.

17. Second Andhra Pradesh Composite Irrigation Development Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	20 March 1986
Closing Date	30 June 1994
IBRD + IDA Commitment (Million Dollars)	271.0
Total Project Cost (Million Dollars)	271.0

World Bank Claim

The objective of the Second Andhra Pradesh Irrigation Project was to increase agricultural production in the command areas of the Sriramasagar (SRS) and Srisailam Right branch Canal (SRBC) Schemes. Toward this end, the project helped to modernize and complete the existing irrigation network in 165,000 ha under the SRS scheme and extended its irrigable area by 163,000 ha. It also helped in the development of 65,000 ha in the SRBC Scheme. Improved design and operation principles was be introduced under this project to ensure a reliable and equitable irrigation service to farmers through: (i) the introduction of new planning and design concepts; (ii) changes in irrigation system operation; (iii) improved management and maintenance standards; and (iv) the provision of training facilities for operation and maintenance staff and contact farmers.

Reality : There was no reliable and equitable irrigation services to farmers. It did not improve maintenance standard. Infact maintenance was deteriorated, farmers did not benefit from training facilities. Command area development was linked to chemical farming and more use of water.

18. National Water Management Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (97%)
Approval Date	24 March 1987
Closing Date	31 March 1995
IBRD + IDA Commitment (Million Dollars)	114.0
Total Project Cost (Million Dollars)	114.0

World Bank Claim

The national Water Management Project aimed to increase productivity and farm income in existing irrigation schemes. The main element of this water management project was to initiate a seven-year program to plan, implement and monitor improved operation and maintenance in selected irrigation schemes. Although focused on three states (Andhra Pradesh, Karnataka and Tamil Nadu), this program also provides for smaller pilot efforts in other states. The principle components were be: 1) scheme investments including repairs, renovation, additional control structures, measuring devices and upgraded operation and maintenance facilities required to execute improved operational plans in up to 20 schemes with a total of almost 600,000 ha of irrigated area; 2) institutional strengthening; 3) scheme specific training programs; and 4) special studies, and data collection for future irrigation project.

Reality : The programme did not increase productivity and farm income in the existing irrigation scheme. The Data collection only benefited the World Bank to expand its loan business.

19. Second Irrigation – Orissa Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	7 July 1983
Closing Date	31 March 1988
IBRD + IDA Commitment (Million Dollars)	105.0
Total Project Cost (Million Dollars)	105.0

World Bank Claim

The four-year project aimed to continue the State's construction program of Medium Irrigation projects (MIPs) begun in 1960. This included completion of 15 MIPs already under construction in Orissa I, near-completion of three other MIPs, and appraisal as well as partial construction of six new MIPs. In addition, the project provides funds for some 160,000 ha of land to be consolidated into economic production areas. Within the same area, a system of watercourses and drains (defined as On-farm Development or OFD) were to be designed. On approximately 48,000 ha of consolidated land, the OFD works was to be built during the project.

Reality : Project failed to consolidate any economic production and on-farm development. Infact the economic condition of the farmer's became worse after the implementation of the project.

20. Second Irrigation – Gujarat Medium Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	12 June 1984
Closing Date	31 March 1994
IBRD + IDA Commitment (Million Dollars)	172.0
Total Project Cost (Million Dollars)	172.0

World Bank Claim

The Second Gujarat Medium irrigation Project, a follow-on to the Gujarat Irrigation Project, included: (i) complete construction of the 29 subprojects begun under the first time slice, including a lined canal system to the 8 ha subchak level and field channels leading to individual fields; (ii) introduce efficient, reliable, and equitable water management systems in each medium irrigation project; (iii) establish an appropriate institutional framework for extending improved water management activities in the state (v) provide training to farmers and a more reliable water service.

Reality : It did not introduce any efficient, reliable and equitable water service, also failed to provide training to the farmers. There were no channels leading to individual fields.

21. Irrigation Project – Narmada River Development (Gujarat) – Water Delivery and Drainage

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	7 March 1985
Closing Date	1 July 1992
IBRD + IDA Commitment (Million Dollars)	150.0
Total Project Cost (Million Dollars)	150.0

World Bank Claim

The Narmada River Development – Gujarat Water Delivery and Drainage Project was part of an inter-state program for the development of multi-purpose hydropower and irrigation dams on the Narmada River and their associated irrigation canal networks. The program had been designed to: (a) further the progress of India's long-term power plan; (b) bring potentially valuable agricultural land in Gujarat and Rajasthan under irrigation; and (c) supply domestic, municipal and industrial water for Gujarat. The project consisted of the first three years time slice of construction of a large main canal extending for about 440 km through Gujarat to Rajasthan and an extensive canal network. A separate, parallel operation supported by the Bank Group financed construction of a dam and power complex, including a storage reservoir extending about 210 kms upstream of the dam in Gujarat, into Maharashtra and Madhya Pradesh. The projects aimed to install 1,450 MW of hydroelectric generating capacity and associated transmission facilities, and end was expected to further irrigate about 1.9 million ha in Gujarat and create the potential for the irrigation of about 70,000 ha in Rajasthan. Finally, the projects was aimed to supply about 1,300 million cubic meters per annum of municipal and industrial water.

Reality : Project failed significantly in all aspects; no rehabilitation of displaced population. It also resulted in the unsustainable irrigation.

22. Irrigation Project – Narmada River Development (Gujarat) Sardar Sarovar Dam and Power

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	7 March 1985
Closing Date	30 June 1995
IBRD + IDA Commitment (Million Dollars)	300.0
Total Project Cost (Million Dollars)	300.0

World Bank Claim

The Narmada River Development (Gujarat) Sardar Sarovar Dam and Power Project was part of an inter-state program for the development of multi-purpose hydropower and irrigation dams on the Narmada River and their associated irrigation canal networks. The program had been designed to: (a) further the progress of India's long-term power plan; (b) bring potentially valuable agricultural land in Gujarat and Rajasthan under irrigation; and (c) supply domestic, municipal and industrial water for Gujarat. The proposed project consisted of dams and power complexes, including a storage reservoir extending about 210 kms upstream from the dam in Gujarat into Maharashtra and Madhya Pradesh. A separate, parallel operation supported by the Bank Group provided for the first phase construction of an extensive canal network extending for about 440 km through Gujarat to Rajasthan. The project aimed to install 1,450 MW of hydroelectric generating capacity and associated transmission facilities, irrigate about 1.9 million ha in Gujarat and as expected to create the potential for the irrigation of 70,000 ha in Rajasthan and supply about 1,300 million cubic meters per annum of municipal and industrial water.

Reality : Project did not fulfill any of its objectives, no rehabilitation of the displaced population. It also led to unsustainable irrigation.

23. Second Irrigation – Periyar Vaigai Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	1 May 1984
Closing Date	31 October 1993
IBRD + IDA Commitment (Million Dollars)	35.0
Total Project Cost (Million Dollars)	35.0

World Bank Claim

The Periyar Vaigai Irrigation II Project completed the Periyar Vaigai Irrigation Project, extended its irrigable area (73,600 ha) by another 7,500 ha and maximize crop production and farmers' incomes in the 81,100 ha project area through better water utilization. To achieve these objectives, the project aimed to: (i) improve an equitable and reliable water supply in the command area; and (ii) improve water distribution among farmers below the 10 ha block outlets and promote better water management on the farm.

Reality : Project did not provide equitable and reliable water supply in the command area and failed to promote better water management on the farm. Command area developed introduced chemical farming causing water wastage.

24. Irrigation Project – Upper Ganga Modernization

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	24 May 1984
Closing Date	30 September 1994
IBRD + IDA Commitment (Million Dollars)	125.0
Total Project Cost (Million Dollars)	125.0

World Bank Claim

The Upper Ganga Irrigation Modernization Project comprised a six-year time-slice of a program for rehabilitation and modernization of the Upper Ganga Canal (UGC) System. It included: (a) replace the existing (dilapidated) main canal with a parallel lined canal together with modern regulating and access structures; (b) modernize 43,000 ha of the distribution system with lined channels down to and including watercourses; and (c) construct augmentation tubewells on the lined distributaries. In addition, it had to: (d) undertake a reconnaissance drainage study and pilot works program within the distributary blocks to be modernized; (e) initiate construction of a modern canal communication system.

Reality : There was no modernization of upper Ganga Canal, and the parallel canal did not carry any water.

25. Maharashtra Water Utilization Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	9 June 1983
Closing Date	31 August 1991
IBRD + IDA Commitment (Million Dollars)	54.7
Total Project Cost (Million Dollars)	54.7

World Bank Claim

The project sought to raise agricultural production and farm incomes by increasing the effective utilization of available irrigation water supplies. The project aimed to upgrade irrigation and drainage systems of selected areas covering 95,000 ha in five existing irrigation schemes. To ensure reliable water supplies to the farm level, the project emphasized improvements to minor networks and field channels. It provided construction and equipment, training, adaptive research and improved water management.

Reality : There was no increase in agriculture production and farm income as there was no effective utilization of available water supply due to poor drainage system.

26. Second Irrigation – Madhya Pradesh Chambal Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	10 August 1982
Closing Date	31 March 1989
IBRD + IDA Commitment (Million Dollars)	31.0
Total Project Cost (Million Dollars)	31.0

World Bank Claim

The four-year project would consisted of two parts: (i) improvement works to the canal conveyance and drainage systems, construction of additional roads and prevention of ravine erosion, and (ii) intensive block development in a part of the Ambah Branch Canal command including construction of a system for conjunctive use of ground and surface water with regulatable storage, and a minor distribution system lined, where necessary, down to 8 ha turnouts. The proposed works aimed to increase agricultural production, employment and incomes in the project area. Possible risks under the proposed project are those normally associated with irrigation projects in India.

Reality : Project did not increase income or employment. Bank deliberately did not inform the borrower and the implementing agency about the risk involved in the project. Command area development was linked to intensive chemical farming resulting in more use of water.

27. Irrigation Project – Subernarekha

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	17 August 1982
Closing Date	30 April 1989
IBRD + IDA Commitment (Million Dollars)	127.0
Total Project Cost (Million Dollars)	127.0

World Bank Claim

The components of the overall Subernarekha Irrigation System (SIS) comprised the partial construction of the Chandil and Ichha dams and associated canals; partial construction of the Galudih Barrage and associated canals; and the Kharkai canals; initial block irrigation development on about 21,000 ha; the establishment of training facilities for minor systems development and water management, and the institutional framework for managing the fully completed SIS works; and carrying out various pilot studies to facilitate preparation of the later phases of the total SIS project. The major risk under the proposed project involved the possible non-completion of the total SIS after the project completion.

Reality : By partial construction of the dam and associated canals in Subernarekha Irrigation System, World Bank created dependency for the further loan for which borrower had to depend on World Bank.

28. Irrigation Project – Madhya Pradesh Medium

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	17 March 1981
Closing Date	31 March 1988
IBRD + IDA Commitment (Million Dollars)	140.0
Total Project Cost (Million Dollars)	140.0

World Bank Claim

The purpose of the project was to develop irrigation water supplies on the numerous small rivers located throughout Madhya Pradesh to supplement limited and erratic rainfall. The project also aimed to provide the basis for better water management in the State. It was expected to improve the data base for planning future irrigation projects in Madhya Pradesh. The project consisted of: construction, over a five-year period, of medium irrigation projects throughout the State; flow monitoring and evaluation studies; water management areas; training of management staff; technical services for the planning and design of the distribution system; and demonstration farms for irrigated agriculture. The risk under the proposed project are those normally associated with irrigation projects in India.

Reality : The project was faulty as there was no sufficient water in the seasonal rivers. Despite knowing the associated risk Bank funded the project.

29. Second Uttar Pradesh Tubewells Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	8 March 1983
Closing Date	31 March 1991
IBRD + IDA Commitment (Million Dollars)	101.0
Total Project Cost (Million Dollars)	101.0

World Bank Claim

The Second Uttar Pradesh Public Tubewells Project sought to raise agricultural production and farm income in the State of Uttar Pradesh through the construction and upgrading of public tubewell irrigation systems. It supported: (i) the construction of 2,200 new tubewell systems, built to an improved design tested under the Uttar Pradesh Public Tubewells Project (ii) the upgrading of 750 existing tubewell irrigation systems built to traditional design standards; (iii) agricultural support services to farmers in command areas of project wells; (iv) a research and development program to test further potential advances in tubewell technology; (v) training of irrigation and agriculture staff; and (vi) project monitoring and evaluation. The Credit was also provided funds for the preparation of future irrigation projects in India.

Reality : Intensified irrigation by tubewells resulted in the depletion of underground water. Loan was also provided for preparation of future project thus making the State totally dependent on World Bank: Tubewell irrigation also was not cost_effective.

30. Second Irrigation – Haryana Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	25 January 1983
Closing Date	31 March 1992
IBRD + IDA Commitment (Million Dollars)	150.0
Total Project Cost (Million Dollars)	150.0

World Bank Claim

The four-year Second Haryana Irrigation Project continued the Government of Haryana's State-wide canal and watercourse modernization program by lining about 2,900 km of branch, distributory and minor canals, lining about 7 million meters of watercourses; and providing supplementary irrigation water through the installation of 325 augmentation tubewells. Village water supplies and access roads were provided and pilot studies undertaken to

test sprinkler irrigation systems and raise the efficiency and performance of the modernized canal / watercourse systems.

Reality : Project failed to raise the efficiency and performance of the water course. Installation of tubewell resulted in the exploitation of groundwater and higher cost of irrigation.

31. Second Gujarat Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	29 April 1980
Closing Date	30 April 1989
IBRD + IDA Commitment (Million Dollars)	175.0
Total Project Cost (Million Dollars)	175.0

World Bank Claim

The Second Gujarat Irrigation Project supported the introduction of improved planning, design and management of irrigation schemes in Gujarat. Specifically it helped finance a five-year time slice of Gujarat's investment program for irrigation which comprised of: continuation of construction of three on-going major irrigation schemes and improving the village-to-market roads network in their command areas; modernization of parts of Gujarat's largest existing irrigation scheme (Ukai-Kakrapar) including reclamation of coastal lands; catchment protection and construction of irrigation facilities in the coastal areas of Saurashtra peninsula; operational and management improvements on existing and on-going irrigation projects; establishment of an institute for training of land development and water management specialists; and project monitoring and evaluation. In addition, the Second Gujarat Irrigation Project included the preparation of future irrigation projects in India for possible Bank Group financing, including Narmada development projects. The risks under the proposed project were those normally associated with irrigation projects in India.

Reality : By funding the preparation of future irrigation projects, Bank made Gujarat dependent on Bank's loan. It ignored the risk associated with the irrigation project, and promoted unsustainable agriculture.

32. Mahanadi Barrages Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	2 December 1980
Closing Date	31 March 1989
IBRD + IDA Commitment (Million Dollars)	83.0
Total Project Cost (Million Dollars)	83.0

World Bank Claim

The purpose of the project was to the ensure continued availability of irrigation water in a 167,000 ha command area serviced by two 110-year-old weirs. The two weirs were in danger of collapsing and continued supply of irrigation water could avert the danger of a sharp decline in agricultural production in the area. The project consisted of the construction of two new barrages, which replaced the old weirs across the Mahanadi River and its branch, the Birupa River. The head regulators for the three irrigation canals taking off from the barrages were replaced by new structures. The project also included the development of a Drainage Master Plan for the entire Mahanadi delta, including the implementation of selected works identified under the Master Plan, a program of water management pilot operations and the construction of staff accommodation and other buildings required for the supervision and management of the project. The risk associated with the project, apart from those normally inherent in irrigation projects in India, was that one or both of the old weirs might collapse while the new barrages were being constructed.

Reality : Command area irrigation resulted in chemical intensive agriculture which led to water wastage and unsustainable agriculture.

33. Irrigation Project – Karnataka Tank

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	19 March 1981
Closing Date	31 March 1989
IBRD + IDA Commitment (Million Dollars)	54.0
Total Project Cost (Million Dollars)	54.0

World Bank Claim

The Karnataka Tank Irrigation Project financed construction, over a four-year period, of 120-160 tank irrigation schemes throughout the State of Karnataka estimated to irrigate about 25,000 ha. The project also assisted Karnataka in creating an improved hydrological data base for planning, design and construction of future minor irrigation projects. The main project risk concerned the uncertainty of long-term projections of average annual water runoff into tanks. Adequate account of this fact had been taken in calculating costs and benefits under this project. The risks were not considered to be significantly higher than can be expected of an irrigation project.

Reality : Due to uncertainly in rainfall, there was no sufficient water in tanks and hence the project was a failure. There was more risk than estimated in the project.

34. Irrigation Project – Punjab

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	29 March 1979
Closing Date	30 June 1986
IBRD + IDA Commitment (Million Dollars)	129.0
Total Project Cost (Million Dollars)	129.0

World Bank Claim

The purpose of the project was to help Punjab implement a five-year time slice of on-going irrigation development programs implemented by existing institutions. The project included: increase quantity, reliability and equitable distribution of irrigation water through modernization of major and minor irrigation systems and undertake studies and introduce pilot demonstration schemes for on-farm works. In addition, it provided funds to Government of India for the preparation of irrigation projects throughout India. The project was designed to increase food production and the standard of living of the farmers in Punjab.

Reality : It resulted in the intensive use of water resulting in unsustainable agriculture.

35. Irrigation Project – Gujarat

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	23 May 1978
Closing Date	30 June 1984
IBRD + IDA Commitment (Million Dollars)	85.0
Total Project Cost (Million Dollars)	85.0

World Bank Claim

The purpose of the Gujarat Irrigation Project was to use for irrigation the numerous small rivers located throughout the State where large scale irrigation or groundwater development was not possible, and to modernize existing medium irrigation projects in Gujarat. The project also aimed to improve the data base for planning future irrigation projects in the State. The project consisted of : (a) construction, over a five year period, of medium irrigation projects, covering about 63,000 ha throughout the State; (b) modernization of existing medium irrigation projects, covering about 55,000 ha, in order to bring them up to the technical standards agreed for new projects; (c) establishment of a network of automatic discharge measuring stations; (d) carrying out of monitoring and evaluation studies.

Reality : It resulted in the dependency on World Bank. There was no proper modernization of medium canals.

36. Uttar Pradesh Public Tubewell Project

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	15 April 1980
Closing Date	31 March 1983
IBRD + IDA Commitment (Million Dollars)	18.0
Total Project Cost (Million Dollars)	18.0

World Bank Claim

The project supported the construction of 500 public tubewells of three basic alternative designs in 12 Districts of the State of Uttar Pradesh over a two-year period, with the objective of demonstrating and evaluating the relative merits of a number of technical and operational improvements to the design of existing tubewell systems in the State. The twelve districts represented the full range of agro-climatic conditions in the state. A small fund for preparation of a second-stage project to introduce new tubewell designs throughout the state was also provided under the project.

Reality : Tubewell irrigation led the depletion of groundwater table and higher cost of irrigation leading to unsustainable cultivation.

37. Irrigation Project – Haryana

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	8 August 1978
Closing Date	31 August 1983
IBRD + IDA Commitment (Million Dollars)	111.0
Total Project Cost (Million Dollars)	111.0

World Bank Claim

The purpose of the project was to help Haryana complete modernizing (mainly by canal lining) about 30% of its surface irrigation systems; develop supplemental groundwater; accelerate development of irrigated agriculture in the Jui Lift Irrigation Command Area; construct or improve 26 produce markets and about 1,390 km of village link roads; provide drinking water to about 175 villages; and provide technical assistance to help project monitoring, evaluation, research and development. The project comprised a four year phase of development designed to increase food production and the standards of living of the farmers in Haryana.

Reality : Command area development was linked to intensive chemical irrigation which further resulted in water wastage. Project did not improve the living conditions of the farmers.

38. Irrigation Project – Maharashtra

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	19 July 1977
Closing Date	31 March 1984
IBRD + IDA Commitment (Million Dollars)	70.0
Total Project Cost (Million Dollars)	70.0

World Bank Claim

The project consisted of: (a) completion of the Jayakwadi Left Bank Canal (LBC) to km 208 and the Right Bank Canal (RBC) to km 132; (b) completion of the Jayakwadi irrigation distribution and drainage canal network for about 95,000 ha, and lining of all canals; (c) rehabilitation of irrigation distribution works and provision of drainage on about 30,000 ha of the Purna command area; (d) command area development including land grading and shaping on about 45,000 ha of Jayakwadi, a road program covering 40 km of district and 345 km of village link roads, and strengthening of extension services; (e) construction of eleven market centers; (f) a program to monitor the efficiency of the irrigation system and to evaluate project benefits; (g) procurement of vehicles and equipment for project management and O&M; and (h) assistance to state government for future project preparation.

Reality : Command area development resulted in the chemical farming causing more use of water. There was no proper rehabilitation of drainage work and it did not strengthen the extension services.

39. Irrigation Project – Andhra Pradesh

Basic Information

Major Sector	Agriculture, fishing, and forestry (Irrigation and drainage) (100%)
Approval Date	4 May 1976
Closing Date	30 June 1985
IBRD + IDA Commitment (Million Dollars)	145.0
Total Project Cost (Million Dollars)	145.0

World Bank Claim

The Andhra Pradesh Irrigation Project consisted of: (i) completion of the Nagarjunasagar Left Main Canal (about 65 miles) and construction of irrigation and drainage facilities for the NSP Left Bank area; (ii) completion of the Nagarjunasagar Right Main canal (about 29 miles) and construction of irrigation and drainage facilities for the NSP Right Bank area; (iii) rehabilitation, upgrading or construction of about 1,575 km of village roads in the NSP command area; (iv) command area development covering 72,000 hectares of land in the four major irrigation systems mentioned above; (v) a program to monitor water use efficiencies in NSP and crop yields in the four project areas; (vii) extension service assistance; and (viii) assistance for a project preparation and evaluation group in Government of India, Ministry of Agriculture and Irrigation.

Reality : Command area development led to the intensive irrigation. There was no programme to increase the water use efficiency. Project had poor extensions services and no adequate upgradation and rehabilitation of the village roads in the command area.

40. Power Project Upper-Indraati Hydro

Basic Information

Major Sector	(Historic) Electric Power & other Energy (Historic) Hydro (100%)
Approval Date	10 May 1983
Closing Date	30 June 1995
Borrower	N/A
IBRD + IDA Commitment Million Dollars	326.4
Total Project Cost Million Dollars	326.4

World Bank Claim

Construction of a 600 – megawatt hydro-electric power station comprising four 150 – megawatt turbo generator sets, a 110-sq km reservoir, four dams and eight dykes, together with associated channels, tunnels, shafts and penstocks, in the Koraput and Kalahandi districts of the State of Orissa, and provision of associated engineering and administrative services. The tail waters from the power station provided a capability for the irrigation of about 109,000 hectares in the vicinity of the plant.

Reality : There was no proper irrigation system. The construction of reservoir and dam displaced the population which was not rehabilitated.

41. Indira Sarovar Hydroelectric Project

Basic Information

Major Sector	(Historic) Electric Power & other Energy (Historic) Hydro (100%)
Approval Date	17 May 1984
Closing Date	30 June 1994
Borrower	N/A
IBRD + IDA Commitment Million Dollars	300.4
Total Project Cost Million Dollars	300.4

World Bank Claim

The Indira Sarovar Hydroelectric Project's main objective was to assist in meeting the electricity demand in the State of Madhya Pradesh through the addition of 500 MW of hydro-power capacity and better use of the existing thermal plants. The project comprised the construction of a 500 MW (4 x 125 MW) hydro-power station including all equipment, civil works and a transmission line to the Western Regional grid. Main works included a 90 m high, 1650 m long combined gravity and rock-fill dam, about 4500 m of tunnels and shafts, a powerhouse, and 5 km of discharge channels. The project also included a pilot thermal plant rehabilitation program designed to provide for more efficient use of the state thermal stations, which served as a basis for eventual development of an India-wide rehabilitation program, and improvement and expansion of the state electricity board data processing unit and services.

Reality : Project failed to assist the state in meeting the electricity needs. Besides, it also failed to achieve other objectives mentioned in the claim.

(ii) World Bank Funded Major Project in Water Sector 1991 – 2005[2]

During 1991-2005, World Bank has financed the projects in Water Sector totaling around 3621 million dollars for which country will have to pay yearly about 397 million dollars as interest. In almost all the projects approved since 1991; the year when privatization process started, the World Bank has introduced a component of Law, Justice and Public Administration to control the government policies.

42. Hydrology Project-I

Basic Information

Major Sector	(i) Law and justice and public administration (Central government administration) (48%) (ii) Law and justice and public administration (Sub-national government administration) (48%) (iii) Water, sanitation and flood protection (flood protection) (4%)
Approval Date	22 August 1995
Closing Date	31 December 2003
IBRD + IDA Commitment (Million Dollars)	142.0
Total Project Cost (Million Dollars)	180.9

World Bank Claim

The Hydrology Project assisted the Government of India and the seven participating states to develop comprehensive, easily accessed and user friendly data bases covering all aspects of the hydrological cycle, including surface water and groundwater in terms of quantity and quality and climatic measurements, particularly of rainfall. The project supported the objectives of Government of India's National Water Policy and the Bank's strategy for India's water sector and policy regarding water resources management. Special attention was paid to standardization of criteria, processes and procedures for measurement of hydrological parameters and for storage and retrieval of information so that data series will be compatible and the data bases will be interactive. The project was structured as a six-year operation and included support of: upgrading and expanding the physical infrastructure for all aspects of the collection, collation, processing and dissemination of hydrological and hydrometeorological data; provision of equipment and materials; institutional strengthening including technical assistance and training; and new buildings and incremental operating and maintenance costs.

Reality : Hydrology Project Fizzled out : The World Bank's strategy for water sector has been anti-people. There was no upgradation of data collection and collation. Project did not provide user friendly data. There is no justification for the Bank to waste upto 48% loan on Law, Justice and government administration.

43. Madras Water Supply II

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Irrigation and drainage) (1%) (ii) Water, sanitation and flood protection (Water Supply) (99%)
Approval Date	20 June 1995
Closing Date	31 March 2004
IBRD + IDA Commitment (Million Dollars)	275.8
Total Project Cost (Million Dollars)	421.0

World Bank Claim

Madras had the lowest level of water supply of all metropolitan areas in India and great susceptibility to drought. The project's major objectives were to: 1) provide water from a reliable source within the State to Madras on an urgent basis; 2) improve the distribution of water within Madras; and 3) strengthen conservation. The project consisted of the following: 1) source works at the existing Veeranam irrigation tank to the south of Madras; 2) a transmission pipeline from Veeranam to Madras, a distance of 235

[2] Ibid, as reported in 1

km, with associated treatment and pumping facilities; 3) continuation of distribution improvements within Madras being undertaken in the First Madras Supply Project; 4) a water conservation program including physical works such as leak detection and repairs and tariff increases to encourage more efficient use of water; and 5) technical assistance in the form of project preparation and implementation support. Adequate steps were taken to ensure people adversely affected benefit from the project where this was possible and otherwise were made no worse off as a result. To remove possible farmer resistance to the proposals at Veeranam, a new regime to regulate the flow had been introduced following consultation under which the irrigation flows will exceed those that would otherwise have occurred.

Reality : Bringing water from a large distance of 235 km was not economically viable. Project failed to provide reliable source of water. There was no conservation programme for water. Project faced the resistance from farmers.

44. Bombay Sewage Disposal

Basic Information

Major Sector	(i) Water, sanitation and flood protection (Sanitation) (5%) (ii) Water, sanitation and flood protection (Sewerage) (95%)
Approval Date	6 July 1995
Closing Date	31 December 2003
IBRD + IDA Commitment (Million Dollars)	192.0
Total Project Cost (Million Dollars)	295.6

World Bank Claim

The objective of the Bombay Sewage Disposal Project were to: 1) strengthen the capacity of the Water Supply and Sewerage Department of the Municipal Corporation of Greater Bombay in all aspects of the management of the provision of sewerage services; 2) sustain the financial viability of the provision of water supply and sewerage services in Greater Bombay through direct charges to beneficiaries at appropriate levels; and 3) improve the health and environmental conditions in Greater Bombay including slum dwellers. The project included: 1) the construction of two submarine tunnel outfall sewers at each of Worli and Bandra to convey partially treated sewage effluent to the Arabian Sea; 2) a pumping station at Bandra; 3) two aerated sewage treatment lagoons at Ghatkopar and Bhandup; 4) facilities to prevent siltation in the influent tunnel at Ghatkopar; 5) the rehabilitation of the existing Ghatkopar tunnel; 6) measures to improve the structural stability of five existing sewage pumping stations; 7) conveyance systems improvements; and 8) slum sanitation schemes.

Reality : Project failed to provide the sewage disposal and sewage services. (It was manifested during recent monsoon in Bombay). Project also failed to achieve the other objectives.

45. Uttar Pradesh Rural Water Supply and Environmental Sanitation Project

Basic Information

Major Sector	(i) Water, sanitation and flood protection Sanitation (35%) (ii) Water, sanitation and flood protection (Water supply) (35%) (iii) Law and justice and public administration (Sub-national government administration) (16%) (iv) Health and other social services (Other social services) (14%)
Approval Date	25 June 1996
Closing Date	31 May 2003
IBRD + IDA Commitment (Million Dollars)	59.6
Total Project Cost (Million Dollars)	71.0

World Bank Claim

The Uttar Pradesh Rural Water Supply and Environmental Sanitation Project had the following two main objectives: 1) to deliver sustainable health and hygiene benefits to the rural population through improvements in water supply and environmental sanitation services, which increased rural incomes through time savings and income opportunities for women, test an alternative to the current supply driven service delivery mechanism and promote sanitation and gender awareness; and 2) to promote

the long-term sustainability of the rural water supply and sanitation sector by providing assistance to the government of Uttar Pradesh to identify and implement an appropriate policy framework and strategic plan. The project's components were as follows: 1) strengthening and operation of the project management unit; 2) selection and construction of water supply and environmental sanitation facilities for single and regional schemes; and 3) studies and sector development.

Reality : Project did not deliver sustainable health and hygiene benefits to rural population and there was no time saving for the women for collecting water. It also did not provide adequate sanitation in the rural areas.

46. Orissa Water Resource Consolidation Projects

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Irrigation and drainage) (69%) (ii) Law and justice and public administration (Sub-national government administration) (24%) (iii) Agriculture, fishing, and forestry (Agricultural extension and research) (2%) (iv) Health and other social services (Other social services) (1%) (v) Water, sanitation and flood protection (Water supply) (4%)
Approval Date	19 December 1995
Closing Date	30 September 2004
IBRD + IDA Commitment (Million Dollars)	290.9
Total Project Cost (Million Dollars)	345.5

World Bank Claim

Orissa's future economic development and social welfare required better planning and allocation of water across sectors and, for irrigation, improved efficiency of public expenditures and water use, and enhanced agricultural productivity. The Orissa Water Resources Consolidation Project had the following primary objectives: 1) improve the planning, management and development process for the state's water resources; 2) increase agricultural productivity through investments to improve existing schemes and complete viable incomplete schemes; and 3) enhance the department of water resources institutional capability. The project contributed to these objectives by helping the government of Orissa to establish multi-sectoral water planning, enhance the efficiency of public expenditures, provide more efficient and effective irrigation services, and upgrade Department of Water Resource's capabilities in all functional area. The components of the project were the following: 1) scheme completions; 2) systems improvement and farmer participation/turnover; 3) basin planning and environmental action plan; 4) water resources research and agricultural intensification; 5) institutional reorganization and strengthening; 6) resettlement and rehabilitation; and 7) indigenous peoples development plan.

Reality : Project did not enhance the institutional capability. It also failed to increase agriculture productivity and did not provide more efficient use of irrigation. There was no resettlement and rehabilitation of indigenous people.

47. Diversified Agricultural Support Project (DASP)

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (11%) (ii) Law and justice and public administration (Sub-national government administration) (44%) (iii) Transportation (Roads and highways) (21%)
Approval Date	30 June 1998
Closing Date	31 March 2004
IBRD + IDA Commitment (Million Dollars)	129.9
Total Project Cost (Million Dollars)	160.5

World Bank Claim

The principal objectives of the Uttar Pradesh Diversified Agricultural Support Project were to increase agricultural productivity, to promote private sector development, and to improve rural infrastructure. There were six project components. The first,

supported for technology development, enhances capacity for research coordination; established a competitive agricultural research program (CARP) to support time bound adaptive research on priority constraints, increases productivity of the smallholder agriculture; and strengthens research support for technology dissemination activities. The second established a demand-driven technology dissemination system through rationalizing, reorienting, and strengthening line departments; increased participation by the private sector in input supply and support services; increased participation by the farming communities mobilized with the help of nongovernmental organizations; and supported human resource development and greater use of information technology. The third supported increased private sector involvement and public/private partnerships in agribusiness development. The fourth supported rural infrastructure development by improving rural roads in the project districts, rural markets, and market information collection and dissemination systems. The fifth supported a project management and enhanced capacity for economic policy analysis while the sixth supported a project preparation facility.

Reality : World Bank, instead of rural and agriculture development promoted private sector development. By introducing Law, Justice and Public administration, World Bank tried to change the government policy: Apart from this, there was no dissemination about the greater use of technology.

48. Third Andhra Pradesh Irrigation Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (2%) (ii) Agriculture, fishing, and forestry (Irrigation and drainage) (85%) (iii) Agriculture, fishing, and forestry (Forestry) (7%) Heath and other social service 5%
Approval Date	20 May 1997
Closing Date	31 July 2004
IBRD + IDA Commitment (Million Dollars)	325.0
Total Project Cost (Million Dollars)	477.0

World Bank Claim

The primary objective of the Third Andhra Pradesh Irrigation Project was to complete ongoing irrigation development and scheme rehabilitation works begun under the Second Andhra Pradesh Irrigation Project (APII), and thus realize the potential for increasing agricultural productivity and rural incomes in two economically backward regions of Andhra Pradesh. The other objectives were: (1) pilot implementation of management reforms to improve public irrigation performance and to upgrade the government's capacity to improve irrigation services and command area management; (2) retrospectively mitigating the adverse impacts of land acquisition under the APII, and proactively provide economic rehabilitation for those families still to be affected by completing the Srisailam Right Branch Canal Project (SRBC) works; (3) ensuring the safety and sustainability of three dams supplying water to the project areas; (4) implementing a mandated regional programme of environmental improvements, safeguards, and natural resource conservation; and (5) improving government monitoring and evaluation capacity for large irrigation projects. Six components were needed to achieve project objectives: (1) Irrigation Development and Rehabilitation Works-supporting completion of all SRBC civil works begun under APII; and selected civil works under the Sriramasagar Project (SRSP); (2) Agricultural Services Programmes applying research and demonstrating irrigation practices and agronomy, establishing water users association, and providing training to staff and farmers; (3) Resettlement and Rehabilitation Programme economically rehabilitating families adversely affected by acquiring past and proposed land for SRBC and SRSP works; (4) Environmental Management Plan-supporting India's mandated regional programme of environmental safeguards and nature conservation in command area districts; (5) Dam Safety Assurance Works-supporting investment to maintain the structural and mechanical integrity of dams, and preventing failure of the Srisailam dam spillway; and (6) Project Monitoring and Evaluation.

Reality : There were no efforts for mitigating the adverse effect of land acquisition and no attempts for the rehabilitation of displaced population. Dam

safety was totally ignored. Environment conservation was not given due attention.

49. Second Tamil Nadu Urban Development Project

Basic Information

Major Sector	(i) Law and justice and public administration (Sub-national government administration) (18%) (ii) Water, sanitation and flood protection (General water, sanitation and flood protection sector) (65%) (iii) Transportation (Roads and Highway) (17%)
Approval Date	27 May 1999
Closing Date	30 November 2004
IBRD + IDA Commitment (Million Dollars)	105.0
Total Project Cost (Million Dollars)	205.0

World Bank Claim

The Second Tamil Nadu Urban Development Project improved urban infrastructure services in a sustainable manner, and built the institutional and financial capacities of the urban local bodies (ULBs). The project components included: 1) institutional development, to enhance the capacity building of ULBs and the Department of Municipal Administration and Water Supply (DMAWS). This component also included the provision of technical assistance to the Tamil Nadu Urban Development Fund (TNUDF) and ULBs regarding bond issuance, and to ULBs for project preparation and implementation; 2) urban investments, which provided a line of credit through the TNUDF, as well as funds for an integrated sanitation program for the targeted urban poor. It was expected that the protect will bring economic, health, and environmental benefits to the Tamil Nadu's urban population, including to its low-income segment population, through improvements in the quality, quantity, and sustainability of urban services.

Reality : Contrary to the World Bank claim, project did not bring any economic and environmental benefits to the Tamil Nadu's urban population. It failed to provide sustainable urban services.

50. Tamil Nadu Water Resources Consolidation Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (22%) (ii) Agriculture, fishing, and forestry (Irrigation and drainage) (33%) (iii) Law and justice and public administration (Sub-national government administration) (11%) (iv) Health and other social services (Other social services) (19%) (v) Water, sanitation and flood protection (Water supply) (15%)
Approval Date	20 June 1995
Closing Date	30 September 2004
IBRD + IDA Commitmen (Million Dollars)	282.9
Total Project Cost (Million Dollars)	491

World Bank Claim

The Tamil Nadu Water Resources Consolidation Project was sector investment loan financing an agreed statewide program to improve the productivity and sustainability of Tamil Nadu's irrigation sector, to introduce multi-sectoral water planning, to integrate farmers in irrigation management, and to strengthen the state's institutional and technical capacity in water development, management and planning. The project was implemented over seven years. Project components included: (a) system improvement and farmer turnover; (b) scheme completions; (c) water planning, environmental management and research; (d) institutional strengthening; and (e) land acquisition and economic rehabilitation.

Reality : The people whose land was acquired could not be rehabilitated properly. There was no sustainability in the irrigation sector. Project did not focus on environmental management.

51. Second Hydrology Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Irrigation and drainage) (35%) (ii) Law and justice and public administration (Central government administration) (15%) (iii) Law and justice and public administration (Sub-national government administration) (25%) (iv) Water, sanitation and flood protection (Water supply) (5%) Water, sanitation and flood protection (v) (General water, sanitation and flood protection sector) (20%).
Approval Date	24 August 2004
Closing Date	28 February 2011
IBRD + IDA Commitment (Million Dollars)	104.98
Total Project Cost (Million Dollars)	135.05

World Bank Claim

The Second Hydrology Project for India aimed to extend and promote the sustained and effective use of the Hydrological Information System by all potential users concerned with water resources planning and management, both public and private, thereby contributing to improved productivity and cost-effectiveness of water-related investments in the 13 States and eight Central agencies. The project had three main components: 1) Institutional strengthening consisting of consolidation of Hyrology Project activities in the existing States; Awareness raising, dissemination and knowledge sharing; and implementation support; 2) Vertical Extension comprising development of hydrological design aids; development of decision support systems; and implementation of purpose-driven studies; and 3) Horizontal Expansion supporting upgrading/establishment of data collection network; establishment of data processing and management systems; purpose-driven studies; and training.

Reality : Like the Hydrology Project-I, the Hydrology Project-II will also fizzle out. Hydrology Project-II will fail to promote the hydrological information system and will not contribute to the improved productivity. There will be no awareness dissemination about the proper use of water resources. By introducing Law and Justice, the Bank wants to control the administrative machinery of the concerned states.

52. Maharashtra Water Sector Improvement Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (7%) (ii) Agriculture, fishing, and forestry (Irrigation and drainage) (84%) (iii) (General agriculture, fishing and forestry sector) (1%) (iv) Law and justice and public administration (Sub-national government administration) (8%)
Approval Date	23 June 2005
Closing Date	31 March 2012
IBRD + IDA Commitment (Million Dollars)	325.0
Total Project Cost (Million Dollars)	393.77

World Bank Claim

The Maharashtra Water Sector Improvement Project to strengthen the State's capacity for multi-sectoral planning, development, and sustainable management of the water resources, and the improve irrigation service the delivery, and productivity of irrigated agriculture. The project components provide support for institutional reforms, and capacity building in water resources management as well as irrigation service delivery, and complementary investments in improving and modernizing physical assets as described hereby. The first component Water Sector Institutional Restructuring and Capacity Building – will support the establishment and operations of the Maharashtra Water Resources Regulatory Authority (MWRRA); restructure the existing Maharashtra Krishna valley Development Corporation (MKVDC) into the Maharashtra Krishna Valley Water Resources Corporation (MKVWRC), as a river basin agency, and build it's capacity; restructure and strengthen the capacity of the Water Resources Department (WRD), and likewise, of the Water and Land Management Institute (WALMI). The component will finance the establishment of an integrated computerized information system (ICIS). The second component –

improving Irrigation Service Delivery and Management – will support the participatory rehabilitation, and modernization of selected irrigation schemes within the Culturable Command Area (CCA). The component will further enhance the safety of selected dams, and will also focus on the formation and capacity building of Water User's Associations (WUAS) among selected irrigation schemes. Improved water management practices will be implemented, with the inclusion of various instruments in six selected irrigation schemes. Agriculture support services will be strengthened, in liaison with the implementation of the social and environmental management plan. Innovative Pilots will be supported through the third component, the user-centered, aquifer level groundwater management, and other pilots for innovative irrigated agriculture.

Reality : World Bank has no right to interfere in the Law, Justice and Public administration of the country. Restructuring and capacity building will lead to the retrenchment of the staff. Bank will not pay any attention on the safety of dams.

53. Maharashtra Rural Water Supply and Sanitation "Jalswarajya" Project

Basic Information

Major Sector	(i) Law and justice and public administration (Sub-national government administration) (40%) (ii) Health and other social services (Other social services) (5%) (iii) Water, sanitation and flood protection (Water supply) (40%) Water, Sanitation and flood protection (Sanitation) (15%)
Approval Date	26 August 2003
Closing Date	30 September 2009
IBRD + IDA Commitment (Million Dollars)	181.0
Total Project Cost (Million Dollars)	268.6

World Bank Claim

The development objectives of the proposed project are to: (i) increase rural households' access to improved and sustainable drinking water supply and sanitation services; and (ii) institutionalize decentralization of Rural Water Supply and Sanitation (RWSS) service delivery to rural local governments and communities. The project has the following components. Component A: Community Development & Infrastructure Building. This component consists of the following three sub-components: (i) Community Development; (ii) Community Infrastructure; and (iii) Tribal Development Program. The Project will support implementation of three pilots, which seem fundamental to improve decentralization and governance of district and village-level institutions; to introduce aquifer-based supply and demand management of water to enhance sustainability of water sources with reference to communities' broad-based priorities for diverse usages of water; and to develop and scale up a model for O&M of water supply facilities that would expand beyond the proposed project.

Reality : During last decade in almost every project – World Bank has the component of Law, Justice and public administration. In this project this is upto 40% of the total loan. Law and Justice does not require World Bank funding. However by doing so Bank wants to have full control on the government machinery. Bank funding will not enhance the sustainability of water sources for different usages.

54. Madhya Pradesh Water Sector Restructuring Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (7%) (ii) Agriculture, fishing, and forestry (Irrigation and drainage) (80%) (iii) Agriculture, fishing, and forestry (Animal production) (2%) (iv) Law and justice and public administration (Sub-national government administration) (11%)
Approval Date	7 September 2004
Closing Date	31 March 2011
IBRD + IDA Commitment (Million Dollars)	394.02
Total Project Cost (Million Dollars)	443.19

World Bank Claim

The Madhya Pradesh Water Sector Restructuring Project aims to improve productivity of water for sustainable growth, and poverty reduction in selected focus river basins (Chambal, Sindh, Betwa, Ken and Tons) of Madhya Pradesh. The project has the following four components: Component 1) will support the establishment and operationalization of the proposed planning, allocation and regulatory institutions and instruments at the state and basin-levels. Component 2) will support measures related to delivering reliable irrigation services at rationalized cost by financially viable entities. Component 3) will operationalize the concepts and provide the necessary investments in five basins (Chambal, Sindh, Betwa, Ken, and Tons) for (i) reliable delivery of water measured and supplied on an appropriate volumetric basis in the irrigation systems of these basins to improve system performance, cost recovery and accountability of the service provider; (ii) an outcome-oriented approach with integrated sustainable agricultural intensification and diversification; and (iii) improved operation and management of the irrigation and drainage schemes. Component 4) The project activities would be coordinated by a multi-disciplinary Project Implementation Coordination Unit (PICU). Support would be provided to assist the PICU with its role in facilitating and guiding the implementation and monitoring of all project activities, ensuring synergy and coordination amongst activities and agencies implementing these activities, preparing consolidated reports and facilitating training.

Reality : Project will result in complete commercialization, marketization and privatization of water sector. Besides, it will lead to hike in water tariff, large scale retrenchment and forcibly new legislation.

55. Uttaranchal Decentralized Watershed Development Project

World Bank Claim

The Uttaranchal Decentralized Watershed Development Project seeks to expand the geographical coverage of some 20 sub-watersheds in the middle Himalayan hills of Uttaranchal, benefiting the populations of Gram Panchayats by encouraging adoption of improved agriculture technologies, and diversification to increase productivity and rural

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Crops) (20%) (ii) Agriculture, fishing, and forestry (Animal production) (20%) (iii) Agriculture, fishing, and forestry (General agriculture, fishing and forestry sector) (35%) (iv) Law and justice and public administration Sub-national government administration 20% (v) Industry and trade (Agro-industry) (5%)
Approval Date	20 May 2004
Closing Date	31 March 2012
IBRD + IDA Commitment (Million Dollars)	69.62
Total Project Cost (Million Dollars)	89.35

growth, and, adopting a watershed approach for a sustainable management of natural resources, while building institutional capacity for the poor, emphasizing on devolution and building local organizational capacity. Through its components, the project focuses on: 1) promotion of social mobilization and community driven decision making, financing a participatory watershed planning at the village level, and the establishment of Revenue village Committees as representative bodies of resource users. In addition, treatments on arable and non-arable lands will be identified, and, RVC proposals integrated into GP Watershed Development Plans (GPWDPs) supported by Non-Governmental Organizations 2) enhancing livelihood opportunities through farming systems improvements, increasing the role of the private sector, input supply and support services, increasing as well the participation of farmers in the choice of technologies. Value added and marketing support, will be achieved through the establishment of an agribusiness pilot, to identify potential niche market opportunities; to establish links with private sector entrepreneurs who could help exploit market potential, and, disseminate information and technology to facilitate farmers entry into production. The income generating activities for vulnerable groups sub-component, will finance small income generat-

ing micro-enterprises, provide training assistance, and encourage entrepreneurial development; and, 3) capacity building of Gram Panchayat's and local community institutions, through training provision to elected officials of gram Panchayat's in core administrative functions, stakeholders, and, training of community representatives, and organizations in project related activities.

Reality : Diversification of agriculture will lead to more demand for water. Increasing role of private sector will result in the commercialization of water. The role of private sector in agriculture market will open gate to MNCs and big corporates. The Bank funding for Law and Justice upto 20% is to make the government to be subservient.

56. Karnataka Community-Based Tank Management Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Irrigation and drainage) (60%) (ii) Agriculture, fishing, and forestry (General agriculture, fishing and forestry sector) (10%) (iii) Law and justice and public administration (Law and justice) (5%) (iv) Law and justice and public administration (Sub-national government administration) (15%) (v) Health and other social services (Other social services) (10%)
Approval Date	25 April 2002
Closing Date	31 January 2009
IBRD + IDA Commitment (Million Dollars)	98.9
Total Project Cost (Million Dollars)	124.97

World Bank Claim

The project development objective of the Karnataka Community Based Tank Management Project is to improve rural livelihoods and reduce poverty by developing and strengthening community-based approaches to improving and managing selected tank systems. The project adopts a programmatic approach to community-based tank management and covers the first phase of this program-2000 tanks of the estimated 37,000 minor irrigation tanks in the state or 72,000 ha of the 685,000 ha (11 percent) of the estimated command area irrigated by tanks. The project consists of three components: 1) establishing an enabling environment for the sustainable, decentralized management of tank systems; 2) strengthening community-based institutions to assume responsibility for tank system development and management; and 3) undertaking tank system improvements. The third component is further sub-divided into: a) improving the operational performance of selected tank systems through a menu of physical interventions identified and executed by local users and b) facilitating technical training and on-farm demonstrations in water management, agriculture, and horticulture development, fisheries, forestry, and fodder production to help ensure that improved water storage and efficiency is translated into increased household incomes.

Reality : World Bank funding will not help to reduce the poverty. Infact, promotion of horticulture and floriculture will result in higher use of water. This will result in the unsustainable use of agriculture. By introducing Law and Justice, Bank wants the State to follow the dictates of the Bank.

57. Second Karnataka Rural Water Supply and Sanitation Project

Basic Information

Major Sector	(i) Water, sanitation and flood protection (Sanitation) (43%) (ii) Water, sanitation and flood protection (Water supply) (42%) (iii) Water, sanitation and flood protection (General water, sanitation and flood protection sector) (1%) (iv) Law and justice and public administration (Sub-national government administration) (7%)
Approval Date	18 December 2001
Closing Date	31 December 2007
IBRD + IDA Commitment (Million Dollars)	151.6
Total Project Cost (Million Dollars)	193.44

World Bank Claim

The Second Karnataka Rural Water Supply and Sanitation Project will assist the Government of Karnataka in increasing rural communities' access to improved and sustainable drinking water and sanitation services; and institutionalizing decentralization of Rural Water Supply and Sanitation service delivery to Gram Panchayats (GP) and user groups. The project consists of three components. 1) The community development and infrastructure building component will support subcomponents as community development, women development programs, water supply schemes, ground water recharge measures, household sanitation, community sanitation, and indigenous peoples development program. 2) The institution building component will finance project management, sanitation and hygiene promotion, capacity building, and GP strengthening. 3) The sector strengthening programs will finance technical assistance to strengthen its rural water supply and sanitation sector policy and management via creating enabling environment, establishing a sector information management system, supporting continuous learning, procuring state-of-the-art equipment, and monitoring water quality.

Reality : Contrary to the World Bank claim, project will not result in any increase of water access to the rural communities. Money will be wasted in procuring the unnecessary equipment. There is no justification for the Bank to involve in Law and Justice and public administration.

58. Karnataka Urban Water Sector Improvement Project

Basic Information

Major Sector	(i) Law and justice and public administration (Sub-national government administration) (5%) (ii) Water, sanitation and flood protection (Water supply) (95%)
Approval Date	8 April 2004
Closing Date	31 December 2008
IBRD + IDA Commitment (Million Dollars)	39.5
Total Project Cost (Million Dollars)	51.53

World Bank Claim

The Karnataka Urban Water sector Improvement Project components will: a) assist the State Government in finalizing its policy reform agenda, and carry out initial implementation steps of staged sector reforms; and, to prepare business model, and private sector participation processes for service provision in Karnataka. The second component will improve the service provision, and attain continuous service in selected demonstration zones; generate credibility in the overall program and learn lessons on the challenges faced in the demonstration zones for scaling up continuous service provision; and, simultaneously improve the efficiency of bulk supply operation, and distribution networks, attaining initial improvements in water service provision to all State residents. The third component will finance the project's incremental operational costs, and studies related to project management and implementation, including incremental, short term consultants for the Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC); the preparation and establishment of a monitoring and evaluation system; the costs related to the financial management systems within KUIDFC; staff training within KUIDFC Project Management Unit; and, the incremental operating cost at KUIDFC, including supervision costs.

Reality : Project will result in the privatization of water sector mainly to benefit the MNC. The project, instead of supplying the water to the large population, will concentrate on few selected zones. Funds for the appointment of consultant will go to the foreign firms. As experience has shown the training of the staff will not improve their skills.

59. Kerala Rural Water Supply and Environmental Sanitation Project

World Bank Claim

The Kerala Rural Water Supply and Environmental Sanitation Project, will improve the quality of water supply and sanitation service delivery, through cost recovery, and institutional reforms, by implementing new decentralized service models, and improving sector management capacity. The components will: 1) improve the operation of the Kerala Rural

Basic Information

Major Sector	(i) Law and justice and public administration (Central government administration) (3%) (ii) Law and justice and public administration (Sub-national government administration) (10%) (iii) Health and other social services (Other social services) (24%) Water, sanitation and flood protection (General water, sanitation and flood protection sector) (63%)
Approval Date	7 November 2000
Closing Date	31 December 2006
IBRD + IDA Commitment (Million Dollars)	65.5
Total Project Cost (Million Dollars)	89.8

Water Supply and Sanitation Agency (KRWSA), by promoting a sanitation, and hygiene strategy, and framework, through information, education, and communications development. Capacity building includes development of knowledge, skills, and management practices in technical, institutional, financial, and management aspects. This will be strengthened by financing staff capacity building, and installation/operation of computers, and office equipment; 2) support community development, and infrastructure building, ensuring mobilization, and women's participation in a broad range of activities. Design, and engineering support will address community managed water supply systems, in addition to construction, drainage, and environmental management. The tribal development program will address water scarcity, and capacity building; 3) provide technical assistance (TA) for comprehensive statewide planning, development and management aspects; and, 4) provide TA to the Central Government, to foster sector reforms.

Reality : Cost recovery will lead to higher water tariff, sector reform ultimately will lead to privatization. By introducing Law, Justice and public administration, World Bank intends to control entire government setup.

60. Karnataka Watershed Development Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (6%) (ii) Agriculture, fishing, and forestry (General agriculture, fishing and forestry sector) (57%) (iii) Law and Justice and Public administration (Sub-national government administration) (3%) (iv) Health and other social services (30%) (v) Industry and Trade (4%)
Approval Date	21 June 2001
Closing Date	31 March 2007
IBRD + IDA Commitment (Million Dollars)	100.4
Total Project Cost (Million Dollars)	127.6

World Bank Claim

The Karnataka Watershed Development Project aims at improving the productive potential of selected watersheds, and their associated natural resource base, and, strengthen community, and institutional arrangements for natural resource management. The project has four main components: 1) The participatory watershed development, and protection component will finance social mobilization and institution building activities, to facilitate planning, and investment activities by local communities. Through an initial information dissemination, social and resource mapping will be conducted, to analyze gaps, evolving potential solutions, village transects, and a development plan. Physical treatment of sub-watersheds will be implemented, selected by the community, but within acceptable technical approaches. 2) Participatory farmer-driven research, and extension processes will be financed, to include a program of farm demonstrations, and farmer training, to introduce improved practices for agriculture, and horticulture. Moreover, silvi-pastoral treatments, extension improvement, and private participation in artificial insemination, and veterinary services will be

included, in addition to capacity building, particularly in forestry-related institutions. Integrated pest management will be promoted through adaptive trials, and training. 3) the formation of beneficiary groups for additional income generation will be supported, through craft industries, carpentry, and other related enterprising. 4) Institutional strengthening will consist of: a) monitoring and evaluation, which includes additional environmental, and social assessments, and, the development of a geographic information system database; and, b) project management, and coordination.

Reality : Improved horticulture will result in the greater use of water. Involvement of private sector in vetnary services will lead to the commercialization of vetnary health care.

61. Rajasthan Water Sector Restructuring Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (7%) (ii) Agriculture, fishing, and forestry (Irrigation and drainage) (73%) (iii) Law and justice and public administration (Sub-national government administration) (9%) (iv) Health and other social services (Other social services) (11%)
Approval Date	19 February 2002
Closing Date	31 March 2008
IBRD + IDA Commitment (Million Dollars)	140.0
Total Project Cost (Million Dollars)	180.2

World Bank Claim

The main development objectives of the Rajasthan Water Sector Restructuring project (RWSRP) are to: a) strengthen the capacity for strategic planning and sustainable development and management of surface and groundwater resources in Rajasthan; and b) increase the productivity of irrigated agriculture. Besides the project management component, there are two main project components. The first component supports the creation of a State Water Resources Planning Department (SWRPD) responsible for planning and regulation and ensuring consistency of implementation of basin plans across departments, the restructuring and capacity building of the irrigation department, and the strengthening of the capacity of the Environment Policy Planning Unit; the modernization of management information systems in the water sector departments; the piloting of community-based institutions for more sustainable groundwater management and the reinforcement of the data collection and technical capacity of the ground water department; the establishment of a farmer owned and managed water utility; and information, education, and communication campaigns. The second component centers on raising irrigated agricultural productivity, water use efficiency, and irrigation system performance through greater participation of users in systems operations and management, increased cost recovery, and improved agricultural support services delivery.

Reality : World Bank puts greater emphasis on increased cost recovery which means increase in water tariff. As happened in other projects, information education and communication will not yield any tangable results. Ground water management instead of water conservation will result in more exploitation of ground water.

62. Uttar Pradesh Water Sector Restructuring Project

Basic Information

Major Sector	(i) Agriculture, fishing, and forestry (Agricultural extension and research) (15%) (ii) Agriculture, fishing, and forestry (Irrigation and drainage) (35%) (iii) Law and justice and public administration (Sub-national government administration) (34%) (iv) Health and other social services (Other social services) (15%) (v) Energy and mining (Renewable energy) (1%)
Approval Date	19 February 2002
Closing Date	31 October 2007
IBRD + IDA Commitment (Million Dollars)	149.2
Total Project Cost (Million Dollars)	173.7

World Bank Claim

The development objectives of the Uttar Pradesh Water Sector Restructuring Project are to: a) set up an enabling institutional and policy framework for water sector reform in the State for integrated water resources management; and b) initiate irrigation and drainage sub-sector reforms in the State to increase and stain water and agricultural productivity. The project has six components: Component 1 initiates water sector reform. Component 2 finances irrigation and drainage sub-sector reforms. Component 3 pilots reform options for integrated water resources management at the sub-basin level and Component 4 pilots reform measures for sustainable and efficient operation and management of irrigation and drainage infrastructure. Specifically, the latter component rebuilds and modernizes irrigation and drainage systems based on community priorities; supports agricultural intensification and diversification through extension services, study tours, and other training; and pilot replicable management options, including transferring management responsibilities to water user associations. Component 5 initiates topographic surveys and environmental, social, and other assessments, and prepares feasibility studies for activities to be undertaken in a follow-up project. Component 6 assists the facilitating and guiding the implementation and monitoring of all project activities, ensuring synergy and coordination.

Reality : Restructuring and policy framework for water sector will be against the poor. Intensification and diversification of crop will result in more use of water, leading to unsustainable irrigation.

(iii) World Bank Funded Major Projects in Water Sector at Approval Stage[3]

As given below projects of nearly 980 million dollars in Water Sector are in the pipe-line. Country shall be paying around 107.8 million dollars as annual interest on these projects.

[3] Ibid, as reported in 1

63. Delhi Water Supply and Sewerage Project

Basic Information

Project Name	Delhi Water Supply and Sewerage Project
Sector	Water Supply (60%); Sewerage (40%)
Estimated Date of Appraisal Authorization	August 30, 2005
Estimated Date of Board Approval	November 30, 2005
Borrower	National Capital Territory of Delhi and Government of India
Implementing Agency	Delhi Jal Board (DJB)
IBRD+IDA Commitment (Million Dollars)	140.00
Total Project Cost (Million Dollars)	246.00

World Bank Claim

The medium-term objectives pursued by the proposed project, designed as first phase of the above long-term strategy, would be embedded in a Performance Memorandum of Understanding (PMoU) entered into by and DJB for a five year period:

- Reliability : DJB would: (i) initiate the 'outsourcing' of provision of Water Supply and Sewerage Services operation and maintenance (O&M and commercial activities) to professional Operators with the main objective of gradually moving from intermittent supply system to a continuous (24/7) supply system in two Operational Zones (OZ); (ii) systematically rehabilitate existing WSS infrastructure in these two zones (iii) selectively rehabilitate existing trunk WSS infrastructure in other parts of DJB service area to reduce energy consumption and remove major bottlenecks; (iv) implement a series of measures to improve DJB's overall management performance; and (v) prepare a 'roll-out' plan for improving the WSS service in the entire DJB service area.
- Sustainability : DJB would: (i) gradually raise user charges so that revenues exceeds cash O&M expenses by year five; (ii) clean its balance sheet and restructure its capital; and (iii) reach full cost

recovery (O&M, depreciation and financing costs) in the two OZ through a combination of efficiency gains and increased revenues. Delhi Government would gradually reduce operating subsidies paid to DJB to fully phase them out by year five, and disburse them on the basis of actual DJB performance indicators.

- Affordability : DJB would: (i) reduce its energy costs, currently representing 42% of its O&M costs, by refurbishing its larges pumping plants; (ii) reduce its establishment costs, currently representing about 45% of its O&M costs, notably by freezing recruitment and outsourcing selected tasks; (iii) design a tariff structure that meets simplicity and equity criteria in addition to financial objectives; and (iv) implement specific WSS sub-projects to cater for the needs of low income communities.

Reality : Project will lead to water privatization and astronomical hike in water tariff. It will supply water only in two zones at the cost of entire city. It will also result in the retrenchment of the staff.

64. Emergency Tsunami Reconstruction Project

Basic Information

Project Name	India: Emergency Tsunami Reconstruction Project
Sector	Housing construction (65%); General agriculture, fishing and forestry sector (30%); flood protection (5%)
Date PID Prepared	March 16, 2005
Estimated Date of Appraisal Authorization	March 21, 2005
Estimated Date of Board Approval	April 26, 2005
Borrower	Government of India
Implementing Agency	Government of India, Planning Commission through the Government of Tamil Nadu and Government of Pondicherry.
IBRD+IDA Commitment (Million Dollars)	390.00
Total Project Cost (Million Dollars)	603.00

World Bank Claim

The proposed Project's total cost is estimated to be about US$603.0 million including contingencies, of which Bank financing would be US$390.0 million. The indicated amounts for individual activities are notional, at this stage, as the details are still being finalized by Tamil Nadu and Pondicherry. The notional allocations for the different components will be reviewed regularly with Government of India and the state governments and adapted to the changing environment, taking into account funding available from the non-government sectors.

The proposed project will include a significant amount of reconstruction work, particularly construction of housing. In addition, it will trigger the policy on voluntary Resettlement as the reconstruction of houses and public buildings in areas of high vulnerability will involve substantial private land acquisition and associated resettlement. The likely land acquisition and resettlement impact will be determined through a detailed assessment, including an assessment of the impact on the tribal population, if determined to be necessary.

Reality : Project will displace the people from the coastal areas. By promoting shrimp farming, it will destroy the mangrove forest and fragile ecosystem.

65. Uttaranchal Rural Water Supply

Basic Information

Project Name	Uttaranchal Rural Water Supply
Sector	Water supply (100%)
Date PID Prepared	August 7, 2003
Estimated Date of Appraisal Authorization	September 17, 2004
Estimated Date of Board Approval	March 17, 2006
Borrower	Government of India
Implementing Agency	Department of Drinking Water, Government of Uttaranchal
IBRD+IDA Commitment (Million Dollars)	100.00
Total Project Cost (Million Dollars)	125.00

World Bank Claim

The proposed operation has been envisaged to provide assistance to Government of Uttaranchal for

sector strategy in an integrated way. It will finance a substantive portion of the state's investment plan in rural water supply and sanitation for the next five years, as well as move forward on implementation of statewide sector policy and renewed institutional framework. It will also assist in financing multi-village schemes and urban area pilots. The project will have the following four components:

(i) Policy and institutional reforms: Main policy changes required would be in establishing and consolidating a single policy for Rural water supply and Sanitation in the state; planning a new institutional framework, including the re-structuring of the sector institutions; revisions in the financial schemes; and, policy framework for multi-village and urban local bodies.

(ii) Investment component: Augmentation or construction of water and sanitation schemes covering around 3,000 villages in about 1,000 Gram Panchayats. The water supply component will incorporate catchment area protection measures. This component will also include local capacity building (mainly Gram Panchayat's and Zila Panchayats), hygiene programs, and overall program management, and monitoring and evaluation systems.

(iii) Pilots of multi-village and urban schemes: Construction of schemes and new institutional set ups in about four multi-village schemes and two ULBs.

Reality : New institutional frame work in water sector will lead to higher water tariff. Project will not develop any capacity building.

66. Punjab Rural Water Supply and Sanitation

World Bank Claim

The proposed operation would part finance Government of Punjab's 5-year medium term RWSS improvement program, such that Bank financing will be only for the reform program whereas Government of Punjab will finance ongoing schemes for first 2-3 years (till their completion) as well as some reform programs (with Government of India Support). However as a part of the new 5-year Mid Term RWSS program, Government of Punjab will forthwith stop financing any new schemes under the old top-down approach. The Program's main components will be:

Basic Information

Project Name	Punjab Rural Water Supply and Sanitation
Sector	Water supply & Sanitation (100%)
Estimated Date of Appraisal Authorization	
Estimated Date of Board Approval	July 14, 2006
Borrower	Government of India
Implementing Agency	Department of Water Supply and
	Sanitation Government of Punjab
IBRD+IDA Commitment (Million Dollars)	100.00
Total Project Cost (Million Dollars)	200.00

(a) Institution Building: covering program management, capacity building of implementing and support agencies and sanitation and hygiene promotion.

(b) Community Development and Infrastructure Building; and

(c) Sector Development Programs: covering TA for developing long term policies and plans, strengthening M&E and expanding current approaches like O&M management contracts etc.

The project will be implemented in the rural areas of all the 17 districts of Punjab. Villages will be included in the project by adopting a self-selection process, a prerequisite of demand-responsive development. The project is expected to directly benefit about 5 million rural people (33% of the State's rural population).

Reality : Project will not benefit the rural population as claimed (upto 33% rural population). Bank financing only for reform programme will have drastic consequences.

67. Dam Rehabilitation and Improvement Project

World Bank Claim

Over the last fifty years, India has invested substantially in critical infrastructure necessary to store surface runoff through large, medium and small storage dams

Basic Information

Project Name	Dam Rehabilitation and Improvement Project
Sector	Irrigation and drainage (50%); Power (30%); Flood protection (20%)
Date PID Prepared	November 3, 2004
Estimated Date of Appraisal Authorization	August 12, 2005
Estimated Date of Board Approval	February 16, 2006
IBRD+IDA Commitment (Million Dollars)	250.00
Other Agencies (Million Dollars)	100.00
Total Project Cost (Million Dollars)	603

with associated appurtenances. There are about 4050 completed large dams in India with another 475 under construction. The total storage capacity of these dams is about 252 Billion cubic meters. Almost half of these dams are more than twenty-five years old. Most of these dams are used for multiple purposes and are constructed and maintained by the State Governments while a few other organizations such as the Bhakra Beas Management Board (BBMB), Damodar Valley Corporation (DVC), etc., are also owners and operators of dams. In addition, several private sector operations are also starting up to own and operate dams for power, industrial water supply and irrigation. In addition to large dams, there are tens of thousands of medium and small dams in the country constructed by various agencies.

Flood handling facilities of most of these dams are inadequate since they have been designed on the basis of insufficient data and lower standards prevailing at the time of design. Most of these dams are in need of modern instrumentation to monitor and record structural behavior, displacements, seepage, and related hyro-meteorological and seismic factors (in view of the recent severe earthquakes in the country) which would forewarn dam operators of possible risks.

Sedimentation in some reservoirs has impacted on the storage capacity, thus limiting economic benefits of these investments.

Poor maintenance of dams and associated structures, due primarily to lack of availability of adequate resources and systematic assessment and monitoring, particularly in the case of smaller dams, has resulted in deteriorated structures.

There are inadequate legislative and regulatory mechanisms to ensure safe and sustainable operation of dams, particularly in view of much-needed private sector investment coming into the sector.

There is also a need to strengthen the institutions and personnel involved, together with modernized data acquisition and transparent knowledge base necessary to operate and maintain dams in a safe and sustainable manner. Awareness programs and disaster management strategies need to be systematically developed and supplemented.

Reality : Banks intends to support the privatization even for the dam construction. It is not the responsibility of the Bank to make legislative and regulatory mechanism. Bank will fail to provide transparent knowledge.

World Bank Funded (24x7) Water Projects[4]

- $51.1 million WB-aided Karnataka Urban Water Sector Improvement Project for service delivery, plugging leakage and accounting reforms in Belgaum, Gulbarga and Hubli-Dharwad.
- $246-million WB-aided Delhi Water Supply and Sewerage project in South II and III zones. Two six-year management contracts, recast and rehabilitation of all WSS facilities.
- People-and-State-funded Rs. 1,400 cr Greater Bangalore Water Supply and Sanitation Project (green-field piped supply system).

[4] Shastri, Paromita 2005 (a), Well, Well... India is on the Drip, Outlook, May 9, 2005, Vol. XLL, No. 18, New Delhi.

World Bank Financed Water Projects[5] (Power and Irrigation)

Project	IBRD Loans IDA No. Credit	Amount
Power		
DVC Project	IBRD Loan 72	18.5
DVC Project	IBRD Loan 203	25.00
Koyna I	IBRD Loan 223	25.00
Koyna II	IDA Credit 24	21.10
Upper Indravati	IBRD Loan 2278	156.40
Upper Indravati	IDA Credit 1356	170.00
Indira Sarovar	IBRD Loan 2416	157.40
Indira Sarovar	IDA Credit 1613	143.00
Irrigation		
Salandi Irrigation	IDA Credit 14	9.54
Shetrunji Irrigation	IDA Credit 13	5.19
Punjab Drainage	IDA Credit 15	12.05
Sone Irrigation Project	IDA Credit 21	18.09
Purna Irrigation Project	IDA Credit 23	15.67
Beas Equipment Project	IDA Credit 89	26.59
Madana Irrigation Project	IDA Credit 176	36.55
Pochampad Irrigation Project	IDA Credit 268	40.60
Chambal Irrigation (Rajasthan)	IBRD Loan 1011	52.00
Rajasthan Canal	IDA Credit 502	83.00
Godavari Barrage	IDA Credit 535	45.00
Chambal CAD (Madhya Pradesh)	IDA Credit 562	24.00
Andhra Pradesh Irrigation	IBRD Credit 1251	145.00
Tamil Nadu Irrigation	IDA Credit 720	23.00
Maharashtra Irrigation	IDA Credit 736	70.00
Orissa Irrigation	IDA Credit 740	58.00
Karnataka Irrigation	IDA Credit 788	126.00
Gujarat Irrigation	IDA Credit 808	85.00
Haryana Irrigation	IDA Credit 843	111.00
Punjab Irrigation	IDA Credit 989	129.00
Maharashtra Irrigation	IDA Credit 954	210.00
Gujarat Irrigation	IDA Credit 1011	175.00

[5] Shiva, Vandana 1991, "Large Dams and Conflicts in the Krishna Basin" in Ecology and the Politics of Survival, 1991, Sage Publication, New Delhi

Project	IBRD Loans IDA No. Credit	Amount
Mahanadi Barrage	IDA Credit 1078	83.00
Madhya Pradesh Medium Irrigation	IDA Credit 1108	140.00
Karnataka Tanks	IDA Credit 1116	54.00
Madhya Pradesh Major Irrigation	IDA Credit 1177	220.00
Kallada Irrigation	IDA Credit 1269	60.00
Kallada Irrigation	IBRD Loan 2186	20.00
Second Chambal Irrigation (Madhya Pradesh)	IDA Credit 1288	31.00
Suvernarekha Irrigation	IDA Credit 1289	127.00
Second Haryana Irrigation	IDA Credit 1319	150.00
Maharashtra Water Utilisation	IBRD Loan 2308	58.00
Maharashtra Water Utilisation	IDA Credit 1383	32.00
Orissa Irrigation II	IDA Credit 1397	105.00
Periyar Vogal Irrigation	IDA Credit 1468	35.00
Upper Ganga Irrigation	IDA Credit 1483	125.00
Gujarat Medium Irrigation	IDA Credit 1496	172.00
Sardar Sarovar Dam	IDA Credit 1552	100.00
Sardar Sarovar Dam	IBRD Loan 2497	200.00
Water Delivery and Drainage	IDA Credit 1553	150.00
Maharashtra Composite Irrigation	IDA Credit 1621	160.00
Andhra Pradesh Irrigation II	IBRD Loan 2662	131.00
National Water Management	IDA Credit 1770	114.00

John Briscoe, Senior water advisor of the World Bank, ushers convincing arguments in favour of the World Bank's renewed interest in India's water sector. Having suffered negative publicity for its investment in hydro-power sector during the past decade the World Bank in determined to stage a spirited come back. Speaking at the recently conclude annual conference of the International Water Management Institute (IWMI) at Anand in Gujarat, Briscoe did not allow reams of evidence get in the way of good narrative. Carefully choosing 'infrastructure' as the development mantra to justify a four-fold jump in its current annual water-sector lending over the next four years, Briscoe has bundled the controversial hydropower and irrigation sector in its investment folder.

Over the next four years, Water sector lending will flow out of the folder in the following order:

Irrigation Projects	–	$ 1.39 billion
Hydro Power Projects	–	$ 500 million
Water needs	–	$ 700 million
Improving Water Resources Management	–	$ 424 million

It means, averaged annually lending to the tune of $ 800 million against the present figure of $ 200 million. Clearly in its 60th year of existence, the World Bank is reinventing itself. Switching away from its high-risk high-reward' strategy, it is sugar coating its past follies in a fresh new package. For fighting poverty, India may need to make substantive investment in infrastructure in water. However, this would translate into increasing areas under surface water storage a la large dams. In World Bank's parlance, area under surface water storage has been inversely related to poverty.[6]

Briscoe relates India's poverty to its inability to store surface water, India's per capita figure of 130 cubic meter of stored water is lowest in comparison to China and U.S.A. While Chine has an average impressive 5000 cubic meter. Whatever one make out of this correlation, this equation is sure to suit the politician-contractor nexus. With vested interest calling the shots, the traditional village ponds as surface storage structure do not get counted.

With the hidden motive of justifying its interest in hydro-power as potential surface-storage structures, the World Bank has conducted an impact evaluation of the Bhakra Dam after nearly four decades of its commissioning. Ignoring the much publicized benefits of green revolution from one of the country's biggest hydro-power projects, the World Bank instead argues that the projects had indeed benefited the landers and the poor by generating on-farm employment opportunities, for poor as far as from Bihar.

John Bariscoe crafty argues for the development of big dams. However, statistics and projections speak otherwise. Going by the current rate of silting of country's reservoirs, 65 billion cubic or 38 percent of the stored water will get replaced. Can these reservoirs be saved from silting? And why are village tanks not being considered an option. That may not be John Bricoe's concern.

(iv) World Bank Redefines National Policies: Law, Justice and Public Administration

Through its loan World Bank is redefining Water Acts and rewriting water policies and legislation. This is out sourcing of legislation and law. Such out sourcing undo Indian Constitution and Indian democracy because it robs Indian people of water rights and water laws through democratic process and democratic institution of Panchayat Raj, State legislation and Parliament.

World Bank seems to know that water is a politically sensitive issue. Hence most reports prepared for World Bank call for a dispassionate 'depoliticsation' of the issue For instance, the Delhi Water and Waste water Reform Bill, 2004, drafted by PWC, urges the government to setup an independent 'Delhi Water and Waste Water Regulatory Commission' to regulate a privatized water market in the capital. According to the Bill's clauses, the Commission will be a three-member panel where atleast two members shall be from outside government with atleast 15 years in private industry or academic and research institutions. The Bill disallows membership to parliamentarians and legislator or anyone who holds any post in a political party. It is as if World Bank is acknowledging that often democratic processes seem to result in policy decision that are in the public interest.

Similarly, Madhya Pradesh Water Restructuring Loan by World Bank intends to bring new legislation to achieve its sinister objectives. World Bank loan lays down that the draft new legislation will have to be ready be 31st of December 2005. This is terrible blow to our democratic structure. It is the prerogative of the State Assembly and Parliament to decide when and how and which law will be passed, yet the World Bank attempts to dictates this.

[6] Sharma, Sudhindra 2005 "Old Prescription in New Words" Swadeshi Patrika, June 2005, Vol. 10, No. 6, New Delhi.

4

ADB Funded Major Projects in Water Sector[7]

During last decade, Asian Development Bank (ADB) has funded the projects in water sector totaling around 1386 million dollars, for which we have to pay an annual interest of 153 million dollars.

1. Urban Water Supply and Environmental Improvement in Madhya Pradesh

Basic Information

Sector	Water Supply, Sanitation & Waste Management Urban Administration and Development
Implementing Agency	Department Government of Madhya Pradesh
Loan Approval Date	12 December 2003
Estimated Completion Date	—
ADB Bank Commitment	200.00 (Million Dollars)
Borrower	0.00
Project/Program Cost	200.00 (Million Dollars)
Total Loan	200.00 (Million Dollars)

ADB Claim

The primary objective of the Project is to promote sustainable growth and poverty reduction in the six Project cities in Madhya Pradesh, and thereafter in the other cities in the state. Specifically, the Project will : (i) provide sustainable basic urban infrastructure and services to all citizen of the six Project cities; and (ii) support comprehensive urban governance and institutional reform to enhance accountability in municipal management, and strengthen the capacities of the Project cities, particularly in the areas of resources mobilization and cost recovery. While the Project will benefit the entire urban community in general, some of its components will focus on upgrading the conditions of the poorest and most needy groups in the slum areas in particular.

Reality : Project will increase water tariff. Institutional reforms will not enhance accountability in municipal management. Substantial amount of the loan will be wasted on consultants, ignoring the real work. International bidding to procure the material will only favour the foreign firms.

2. Karnataka Urban Development and Coastal Environmental Management Project

Basic Information

Sector	Multisector / Multisector
Executing Agency(ies)	Karnataka Urban Infrastructure Development and Financing Corporation
Loan Approval Date	26 October 1999
Tentative Completion Date	December 2004
ADB Bank Commitment	175.00 (Million Dollars)
Borrower	76.40
Project/Program Cost	251.40 (Million Dollars)
Total Loan	175.00 (Million Dollars)

[7] ADB Website

ADB Claim

The objective of the Project was to optimize social and economic development in the urban areas of west Karnataka by supporting investments in urban infrastructure and services required to meet basic human needs and facilitating policy reforms to strengthen urban management. The Project was undertaken in six parts: Part A provided support for capacity building of local government administrations and community participation with particular emphasis on the formation of sustainable community-based organizations to participate in the design and implementation of poverty reduction subprojects; Part B included water supply, rehabilitation and expansion; Part C improved urban environment quality, including wastewater management, storm water drainage, solid waste management, traffic management, and municipal services and facilities, such as public markets and slaughterhouses; Part D improved transportation by upgrading streets and bridges in urban areas; Part E focused on coastal environment management through the preparation of a coastal resource management and conservation plan, development of a cleaner production and environment monitoring program, promotion of coastal erosion protection through mangrove reforestation, and preparation of a Mangalore urban waterfront rehabilitation plan; and Part F provided implementation assistance.

Reality : Policy reform will make the State government as the subservient to the Bank. Instead of coastal management it will destroy the fragile ecosystem of the coastal areas. Improved cost recovery will enhance the water tariff.

3. Kerala Sustainable Urban Development

Basic Information

Sector	Water Supply, Sanitation & Waste Management/Integrated
Executing Agency(ies)	Government of Kerala
Loan Approval Date	2005
Completion Date	
ADB Bank Commitment	205.00 (Million Dollars)
Borrower	0.00
Project/Program Cost	205.00 (Million Dollars)
Total Loan	205.00 (Million Dollars)

ADB Claim

The Project involved the improvement, upgrading and expansion of the existing urban infrastructure facilities and basic urban environmental services (water supply, sewerage and sanitation, urban drainage, solid waste management, and urban roads and transport) in five municipal corporations (MC) of the State of Kerala. The Project also involves institutional strengthening and capacity building of state and municipal agencies in urban management and urban services provision as we will as poverty alleviation initiatives developed through stakeholder participation. Upon completion of the Project, the improved water supply system will provide 96, 968 new connections that will directly benefit about 960,400 in three of the five MCs (Kochi, Kollamm and Thrissur). Improvements in the sewerage system, provision of sanitation facilities and latrines, storm drainage, and solid waste collection and disposal services will benefit everyone in the MCs.

Reality : Project will increase water rates, user charges and property tax. Project will not be environmentally sustainable. Involvement of foreign consultants will result in the diversion of project loan.

4. Uttaranchal Urban Development

Basic Information

Sector	Water Supply, Sanitation & Waste Management/ Water Supply & Sanitation
Executing Agency(ies)	Urban Development Department of Uttaranchal Government
TA Approval Date	14 July 2005
Completion Date	31 May 2006
ADB Bank Commitment	600,000.00 (Dollars)
Borrower	0.00
Project/Program Cost	600,000.00 (Dollars)
Total Loan	600,000.00 (Dollars)

ADB Claim

The objectives of the Technical Assistance are twofold: (i) to support the Government of Uttaranchal in preparing a project suitable for ADB financing that will improve urban environment and living

conditions of the residents and that will promote urban reforms for sustainable urban service delivery; and (ii) to strengthen project management and implementation capacity of State agencies, ULBs, and utilities so as to ensure successful implementation of the investment project in line with the above objectives, the TA will have two phases with the first phase being dedicated to the preparation of the feasibility of an investment package and the second phase focusing on activities to improve the project management capacities of relevant agencies. The ensuing investment project is sustainable urban service delivery through necessary urban policy and institutional reforms and capacity building assistance. A sector loan modality will be adopted for the ensuing investment project.

Reality : Project shall be prepared according to conditionalities of the ADB which would benefit ADB more than actual beneficiary. Appointment of a foreign consultant shall be a criminal wastage of the loan. It will not improve the management capacities of the relevant agencies.

5. North East Region Urban Development (Phase II)

Basic Information

Sector	Water Supply, Sanitation & Waste Management/ Water Supply & Sanitation
Executing Agency(ies)	Ministry of Development of North Eastern Region
TA Fact Finding Mission Undertaken/Scheduled	29 Nov-8 Dec 2004
TA Approval Date	—
Completion Date	—
ADB Bank Commitment	800,000.00 (Dollars)
Project/Program Cost	800,000.00 (Dollars)
Total Loan	800,000.00 (Dollars)

ADB Claim

The Technical Assistance will assess minimum infrastructure requirement for the project cities to be eligible for financing; review past support to the urban sector and lessons learned; conduct a socioeconomic survey, poverty mapping, service demand survey, and willingness to pay surveys; review data collected from socio-economic surveys, engineering field surveys and mapping and secondary source for the project cities to assess the capacity to charge and prepare alternative supply and demand management options.

Reality : It is not for ADB to conduct the studies to assess the minimum requirement for infrastructure. Such information can easily be supplied by the concerned States. However to force its own terms and condition ADB shall conduct the study and make the report.

6. Preparation of the Jammu and Kashmir Urban Infrastructure Development Project

Basic Information

Sector	Water Supply, Sanitation & Waste Management/ Water Supply & Sanitation
Executing Agency(ies)	Economic Reconstruction Agency of Jammu & Kashmir State
TA Fact Finding Mission Undertaken/ Scheduled	21 July – 10 August 2004
TA Approval Date	21 December 2004
Completion Date	—
ADB Bank Commitment	500,000.00 (Dollars)
Project/Program Cost	500,000.00 (Dollars)
Total Loan	500,000.00 (Dollars)

ADB Claim

The proposed Project preparatory technical assistance aims to complement the rehabilitation works under the Multisector Project for Infrastructure Rehabilitation in Jammu and Kashmir; and expand the coverage and improve the quality, efficiency, reliability, cost effectiveness and reliability of water and sanitation services in the cities of Jammu and Srinagar. It is expected to formulate a comprehensive investment strategy for water supply and sanitation including components on tariff structure reforms, cost recovery, non-revenue water reduction program, and other administrative and operational aspects of water and sanitation services provision.

Reality : Project Preparatory report shall recommend water tariff structure and non-revenue reduction of water which means hike in water tariff and no water supply or minimum supply to the poor.

7. Calcutta Environmental Improvement

Basic Information

Sector	Water Supply, Sanitation & Waste Management/ Waste Management
Executing Agency(ies)	Calcutta Municipal Corporation
TA Fact Finding Mission Undertaken/ Scheduled	26-28 August 1998
TA Approval Date	16 October 1998
Completion Date	31 July 1999
ADB Bank Commitment	1000,000.00 (Dollars)
Project/Program Cost	1000,000.00 (Dollars)
Total Loan	1000,000.00 (Dollars)

ADB Claim

The objective of the TA was to prepare a Municipal Calcutta Environmental Improvement Program (MCEIP) setting out a technically and financially viable program for improvement of drainage, wastewater management, and solid waste management as well as other investments necessary for improving environmental quality over the next 20 years within the jurisdiction of Calcutta Municipal Corporation (CMC). The TA included preparation of a feasibility study for the highest priority drainage, wastewater, and solid waste management improvements, including management of hospital wastes and improvement of slum environments. The TA also recommended an institutional framework and capacity building for implementation of MCEIP by CMC and a financial management framework that assures long-term cost recovery and financial viability.

Reality : Project report was prepared keeping in view the suitability for Bank's consideration which means obeying the conditionalties of ADB.

8. JFPR* – Sustaining Income and Basic Human Needs of the Poor in Disaster Prone Areas of Gujarat

Basic Information

Sector	Multisector
Executing Agency(ies)	Gujarat State Disaster Management Authority
Grant Fact Finding Mission Undertaken/ Scheduled	15-27 July 2001
Grant Approval Date	6 November 2002
Completion Date	31 December 2004
ADB Bank Commitment	3,400,000.00 (Dollars)
Project/Program Cost	3,400,000.00 (Dollars)
Total Loan	3,400,000.00 (Dollars)

ADB Claim

The objectives of the project were to (i) provide alternate drinking water sources in drought prone areas of rural Gujarat, and enhance water conservation and hygiene education and public awareness to ensure sustainability of the project component; (ii) pilot new approaches for sustaining income generation of the poor under leasing arrangements; (iii) address specific needs of the rural poor and tribal families as well as women; and (iv) use the results from the pilot projects as pilots for ADB's growing poverty agenda in India. The Project had five components: (i) community rain water harvesting structures for the poor's drinking needs; (ii) setting up of community owned tool centers; (iii) supporting the poor's transport needs for commodity and goods produced; (iv) promoting new technologies for village based use including a major component for tribal development in Sabarkhantha to uplift the extremely poor tribal population who are the poorest under BPL, and a community based marketing center in Bhuj city of Kutch district; and (v) project management including poverty impact assessment, project administration, and dissemination of policy implications from the pilot project.

Reality : Project failed to provide alternative source of drinking water. No awareness was disseminated about water conservation. Adequate rain water harvesting structures were not put for community needs.

JFPR is a Special Programme of ADB

9. Rajasthan Urban Infrastructure Development

Basic Information

Sector	Multisector
Executing Agency(ies)	Urban Development Department
Loan Approval Date	3 December 1998
Completion Date	December 2004
ADB Bank Commitment	250.00 (Million Dollars)
Borrower	112.00 (Million Dollars)
Project/Program Cost	362.00 (Million Dollars)
Total Loan	250.00 (Million Dollars)

ADB Claim

The Project was an integrated urban infrastructure development project, under which assistance was given to the State of Rajasthan for development of water supply and sanitation, solid waste and wastewater management, road improvement and traffic management, slum upgrading, environmental improvements, and strengthening of other civic services. The Project also provided assistance towards capacity building and community participation at the state and local levels to support the effective devolution of urban management, taking into account the need to promote good governance. In addition, assistance for Project implementation was provided. The project preparation report consulted non-governmental organizations and others.

Reality : Project did not improve the quality of life of beneficiaries. It failed to reduce the time to fetch water. Project did not consult the non-governmental organizations properly.

10. Gujarat Earthquake Rehabilitation and Reconstruction Project

Basic Information

Sector	Multisector
Executing Agency(ies)	
Loan Approval Date	26 March 2001
Completion Date	—
ADB Bank Commitment	500.00 (Million Dollars)
Borrower	125.00 (Million Dollars)
Project/Program Cost	625.00 (Million Dollars)
Total Loan	500.00 (Million Dollars)

ADB Claim

The scope of the Project comprised (i) immediate rehabilitation support to fund social safety net; (ii) assistance for power sector rehabilitation; (iii) assistance for urban infrastructure rehabilitation; and (iv) assistance for the reconstruction of residential houses.

Reality : There was no proper reconstruction of residential houses and project also failed to develop social safety.

11. Chhattisgarh Irrigation Development Project

Basic Information

Sector	Agriculture & Natural Resources/ Irrigation and Drainage
Executing Agency(ies)	Water Resource Department
Loan Approval Date	29 March 2005
Completion Date	—
ADB Bank Commitment	46.10 (Million Dollars)
Borrower	19.90 (Million Dollars)
Beneficiaries	0.60
Project/Program Cost	66.60 (Million Dollars)
Total Loan	46.10 (Million Dollars)

ADB Claim

The Project aims to improve rural livelihoods and reduce rural poverty through improved irrigation service delivery, enhanced agricultural practices, and strengthened water resources management to increase the productivity of irrigated agriculture in Chhattisgarh.

Reality : Contrary to the claim, project neither will improve irrigation services nor will strengthen water resources management. International bidding to procure the material shall favour the foreign firm.

12. Integrated Irrigation Development Project

Basic Information

Sector	Agriculture & Natural Resources/ Irrigation & Drainage
Executing Agency(ies)	Water Resource Department
TA fact Finding Mission	September 2005
TA Approval Date	—
Completion Date	—
ADB Bank Commitment	800,000.00 (Dollars)

ADB Claim

The Project will enhance rural incomes and reduce poverty by promoting sustainable management of water and land resources. Its purpose is to complement the Government's ongoing Accelerated Irrigation Benefits Programme by increasing agriculture production through improved water resources infrastructure and management in selected river basins. With strong stakeholder involvement, the project will also promote efficient water use and sustainable operations and maintenance. The Technical Assistance will be undertaken in two phases. Phase I will comprise (i) preparation of an IWRM strategy in the selected river basins; (ii) identification of priority irrigation and associated inventions; and (iii) identification of policy and institutional assessments. Phase II will prepare an investment project to support Integrated Water Resource Management through feasibility studies and institutional assessments.

Reality : Contrary to the claim, the project will not promote sustainable management of water and land resources.

13. JFPR* – Rainwater Harvesting and Slum Development in Rajasthan

Basic Information

Sector	Water and Development
Executing Agency(ies)	India
Grant Fact Finding Mission Undertaken/Scheduled	15-27 July 2001
Grant Approval Date	24 September 2002
Completion Date	31 December 2004
ADB Bank Commitment	1,900,000.00 (Dollars)

ADB Claim

The project was implemented in the three districts of Jodhpur, Bikaner and Jaipur in Rajasthan over a period of three years. It was implemented mainly through NGOs with active community support.

The project aimed at reducing water related human poverty in slum areas in Rajasthan through rainwater harvesting, micro-drainage, sanitation, garbage collection and awareness generation.

Reality : ADB project did not reduce poverty related to water problem. There was no adequate drainage development in the project.

JFPR is a Special Programme of ADB

5
Water Crisis in Delhi

With water riots and acrimonious conflicts over water becoming the norm, the water situation in the country in instead critical. According to the World Water Institute, Washington, India will be highly water stressed from 2020 onwards[8]

On an average, says a recent TISS study, 65 per cent of households in Indian cities are water-deficient, clocking an average of 5.6 hours of supply per day. WHO puts minimum water needs at 100 litres per capita per day (pcpd); the Indian norm is 40.[9]

More important is the duration of the supply. Cities like Delhi and Mumbai supply water 4-5 hours a day on an average, some cities like Hyderabad deliver water every other day. Yet, water resources may be abundant, ranging from 341 litres pcpd in Goa to 105 litres in Bharatpur. The traditional explanation given for the intermittent system is lack of resources. But there is little correlation between the two. In Africa, cities with 110 litres offer continuous water supply, European cities provide around 150, while Delhi supplies 240 litres! But this is only an average – pcpd being total supply divided by population – and distribution is heavily skewed in favour of Lutyens babucrats and politicos.

Urban water supply assumes importance as by 2020 around half of Indians will be living in cities. The common thread that binds all is the recognition that India's water problem is not a supply but a resource management problem. Over time, poor management of supply and distribution has worsened the situation even in Delhi.

In the past decade, as municipalities have increasingly defaulted on supply and quality, citizens have turned to costly alternatives. The packaged water industry is now a Rs. 10,000-crore-and-rising industry. Then there is the expensive, on-line household water treatment and supply boosting equipment industry. A recent study in six A-class cities (Indore, Nagpur, Jaipure, Ahmedabad, Bangalore and Chennai) notes that in three of these, the contribution of groundwater towards meting the city's domestic and municipal water requirements ranges between 72 per cent and 99 per cennt. Several also have a thriving tanker water economy, supplying around 14-55 million litres per day. Many South Delhi residents and slum areas perpetually live off tankers.[10]

Table 5 (i) Need and Shortfall of Water in 12 Major Cities[11]

City	Need (million litres/day)	Shortfall (million litres/day)
Delhi	3,830	880
Lucknow	560	120
Kolkata	2,258	690
Jaipur	349	313
Jabalpur	239	945
Bhopal	335	70
Indore	318	134
Visakhapatnam	305	146
Mumbai	4,000	1,030
Hyderabad	956	186
Chennai	300	105
Bangalore	840	135

[8] Krishnan, S. Anandan, 2004, "Is the Water Bomb Ticking for India. Science Reporter", June 2004. National Institute of Science Communication and Information Resources, CSIR, New Delhi.

[9] Ibid; as reported in 5

[10] Ibid; as reported in 5

[11] Aiyar, Shankar 2003, "Thirsty India", India Today, 9 June, 2003, New Delhi.

Forget those who can afford such spending on water, even the poorest pay for water in terms of substantial health cost, and a waste of time queuing up or trudging long distances to fetch water. And the rich who often waste water get unnecessary subsidies. The subsidy for water connection and actual use is $17 per month for the richest in Bangalore.

As shown in table 5. (i), a study of 12 major cities reveals that while they require over 14,000 million litres of water a day, they get only 10,000 million litres. Due to water shortage, over 200 million people are vulnerable to water wars.

Southern cities are the most water-deficient. Chennai and Bangalore suffers from 53.8 per cent and 39.5 per cent deficiency, respectively. Andhra Pradesh has two extremes: deficiency is a moderate 24.2 per cent in Hyderabad, an alarming 91.8 per cent in Vaizag.

In the North, Delhi records 29.8 per cent water deficiency and Lucknow, 27.3 per cent. Central India is more water-deficient than the North with wide regional variations. For example, Indore and Jabalpur record rates of 72.8 per cent and 65.4 per cent, respectively. Mumbai in the West is with a deficiency rate of 43.3 per cent. Similarly Kolkata clocks at 44 per cent. A common reason for urban water shortage is falling water tables. Due to supply shortages from centralized water distribution systems, ground-water extraction is increasing. Nearly 40 per cent of water demand in urban India is met by groundwater. So, groundwater tables in most of cities are falling at an annual rate of 5-10 feet.

Table 5 (ii) shows the number of water deficient households in different cities and Table 5 (iii) gives the deficiency in demand and supply of water.

Table No. 5 (ii)
Number of water deficient households[12]

Delhi	14,73,114
Mumbai	17,35,756
Kolkata	4,36,905
Hyderabad	4,13,881
Kanpur	3,29,714
Ahmedabad	4,29,199
Madurai	1,48,533

Table No. 5 (iii) How wet, how dry[13]

City	Demand MLD	Supply MLD	Deficiency %
Mumbai	4300	3000	43.3
Delhi	3830	2950	29.8
Kolkata	2258	1568	44.0
Chennai	3000	1950	53.8
Hydrabad	956	770	24.2 least deficient
Indore	318	184	72.8
Bangalore	1200	860	39.5
Lucknow	560	440	27.3
Jabalpur	239	144.5	65.4
Vaizag	305	159	91.8 most deficient

While water wars are predicted in the next few decades, the city's inequitable supply that ranges from 400 litres per person daily (LPCD) in NDMC and Cantonment areas to 30 LPCD in far flung south Delhi areas, may soon lead to a law and order situation. It is unfortunate that NDMC covers only about 2% of the city gets 30% of the water supply. It is very unfair distribution. A little water can be diverted to trouble areas to ease the situation.

In peak summer at an estimate about 15 million people in Delhi are facing crippling water shortage, and are looking for any one who can provide them even one bucket of water. In many localities, people are using treated water to take bath, which is used for gardening. People have to decide each day, what is their priority – desperation has driven some people to the unusual step of stocking mineral water not only for drinking but also for taking bath.

With water situation worsening by the day, Police have identified over 35 potential 'trouble areas'. These flash points include up-market areas like Defence Colony, Vasant Kunj, Greater Kailash and middle class localities like Patel Nagar, Malviya Nagar, Dwarka, Kalkaji, Tilak Nagar, Vikas Puri and Shahpurjat. As well as lower income group localities like Sangam Vihar, Narela, Najafgarh, Uttam Nagar and Dabri. To diffuse any potential situation the local police have to liaise with the Resident Welfare Association (RWAs).

[12] Singh, Karan and Cooshalle Samuel, 2005, "Water, Too Little, Too Cheap, Too Late, 27 June 2005, Hindustan Times, New Delhi.

[13] Ibid; as reported in 12

Private water companies have failed to provide guaranteed quality water even though people continue to pay high prices. After privatisation, Delhites will be compelled to pay a monthly bill of Rs. 2000 instead of the present bill of Rs. 50. an additional tax on the sewage will also be charged which means; Delhites will have to pay Rs. 2,500 per month.

Even before privatisation, water tariff is set to soar in the capital to almost double the existing rates. The existing rate for 20 kilolitre of water is Rs 30 while the revised rate for the same quantity of potable water would be Rs 117. Similarly 30 kilolitre of water will be priced at Rs 192 as against the present slab of Rs 43, while 40 and 50 kilolitre of water will be available at Rs 267 and Rs 417 respectively. The impact of the tariff restructuring on the domestic bills will be felt most in the consumption levels which exceed 25 kilolitres, as shown in table 5(iv).

Three categories of Consumers :

Category 1 : Domestic consumers, ranging from pure residential premises to bulk connections for JJ colonies, orphanages and religious premises. (Total consumers : 13,89,273)

Category 2 : Non-domestic consumers, including commercial establishment like shops, offices, household industries, restaurants, public urinals, banks and professional training institutes. (Total number of consumers : 91,596)

Category 3 : Commercial premises having large water consumption, like cinema halls, ice factories, private educational institutions, industrial units, photo labs, horticulture farms, power plants, hotels, banquet halls (Total number of consumers : 21,075)

Working out the Bill

The new tariff my be calculated like this :

B=F+1.5 X 1 X U

B is the water bill amount in rupees

F is the fixed charge. In domestic category, it may very from Rs. 40 for LIG flats to Rs. 100 for houses built in 100 – 150 sq.m plots and Rs. 150 for bungalows.

I is the incremental factor or rate per kilolitre. It may be zero for those consuming up to 6 kilolitres. Then from 6-20, 20-40 and above 40 KL, it could be 2.5 and 10.

U is number of unit consumed in kilolitres.

The new tariff would have two parts. There will be a fixed charge that will vary depending on the size of the place where the connection is provided. Then there would be a slab-wise charge for using water. There may be a 50 percent surcharge on the consumption charge for sewerage collection and treatment.

Table 5 (iv)
Amount you'll have to cough up[14]

Amount you'll have to cough up		
Monthly consumption (KL)	Proposed Bill (Rs.)	Current Bill (Rs.)
6	75.00	30.00
10	87.00	30.00
15	102.00	30.00
20	117.00	30.00
25	154.00	32.00
30	192.00	43.00
35	229.00	65.00
40	267.00	88.00
45	342.00	110.00
50	417.00	133.00

14 Jha, Sanjay 2004, "From Dear to Dearer", Sahara Times, 16 October, 2004, New Delhi.

(i) Sonia Vihar Treatment Plant

Sonia Vihar Water treatment plant (WTP) was constructed to supply the water to citizens of South and East Delhi. The plant was supposed to be commissioned in August 2003 and start supplying water to citizens. Government spent approximately 800 crores on this project that include water conduit from Muradnagar regulator to Sonia Vihar WTP, Consrtruction of Sonia Vihar WTP, Clear water mains including BPS etc. But due to delay in construction plant got delayed for more than 15 months and thereafter it is getting delay due to non-availability of water. It was told by Government of Delhi that the plant will be supplied by Ganga water from Tehri dam. But Government of Uttar Pradesh and Uttranchal have clearly denied to supply Ganga

SONIA VIHAR WTP

Capacity : 140 MGD or 630 million ltrs
Cost of Construction of WTP : 189.9 cr
Name of Contractor : Degremont India Ltd.
Total Cost of Project : 800 crores approx.
Raw Water : Ganga from Tehri Dam
Water Transportation : (i) From Tehri to Muradnagar : Upper Ganga Canal
(ii) From Murad Nagar to Sonia Vihar WTP Closed conduit
Beneficiary Areas : East and South Delhi
Date of Commencement of Work :
July – August 2000
Due Date of Completion of work : August 2003

water for the plant for the reason that there is no MOU between states.

Due to confusion and denial public money amounting to Rupees 800 crores is under question and plant is standing idle. As per the contract agreement between Delhi Jal Board and Suez-Degremont company will run the plant for ten years and if DJB fails to supply the water penalty of Rupees 50,000 will be paid to the company. The back washing of the plant has been completed during the month January-March 2005 and after giving 80 cusec water/day for back washing Uttar Pradesh stopped supply to the plant on 14th March 2005 stating that UP was not under obligation to supply water for these many days. In present scenario there are recurring direct and indirect losses of approximately 1 crore per day to the public.

Sonia Vihar WTP : Disputed from very beginning

1. The plant came in dispute initially after the award of work.
2. Allegation
   (i) Several allegations on tendering procedure and award of work were imposed on the government
   (ii) Allegation on award of work at higher rates were made by DJB members.
   (iii) Allegations for maintaining non-transparency in the award of contract were made by DJB members.
3. Technological issues :
   (i) The plant is based on Pulsator based technology with aquzor filters and same was challenged on the basis of DJB experts report that was prepared by experts after visiting and analyzing Water treatment plant constructed by Suez-degremont and is situated on the bank of River Tapi at Surat.
   (ii) The change in technology from conventional on which the block estimate was passed and No Objection Certificate from Environmental Ministry was obtained, to State of Art Technology was another major objection from DJB members.
4. Land encroachment :

   The major part of the land acquired by LAC for the purpose of construction of plant is under encroachment.
5. Privatization :

   The plant is considered as the privatization model in Delhi as Operation and Maintenance of the plant is contracted to Suez-degremont for net 10 years. This dispute gave birth to agitation in Delhi against water privatisation by Employees Union and NGOs, residents groups, farmers groups etc.
6. Commodification of Mother Ganges :

   The handling over of operation and maintenance of the plant for 10 years to French based multi national came in the center and gave birth to Nation wide agitations by several grass rooted organizations. The basis of agitations were commodification of Ganges in Utranchal, Western Uttar Pradesh and in the religious cities situated at the bank of River mother Ganges. The argument placed by the agitators is that Ganges is our mother and it is for its sons and daughters not for the profit of MNC.
7. Contract Agreement :

   There are allegations that the Contract agreement is in favour of the French based MNC as there are clauses like incentives and penalties for non supply of water to the company.

8. No MOU for Water :

   Lack of Memorandum between Delhi, Uttar Pradesh and Uttranchal for share in Ganges water is the main issue now for non production at plant.

9. Undue benefit to the company :

   Allegations are evolving from every corner that French based MNC is given benefit as Public money is used to construct the plant and benefit will go to Suez. The recent test run went in favour of company making Suez enable to demand O&M cost from the date of test run and penalty for non-supply of water. The major argument in favour of allegation is that what was the need to go through the test run when there was no assurance for water in future to start the production.

Sonia Vihar WTP : Losses due to non commissioning

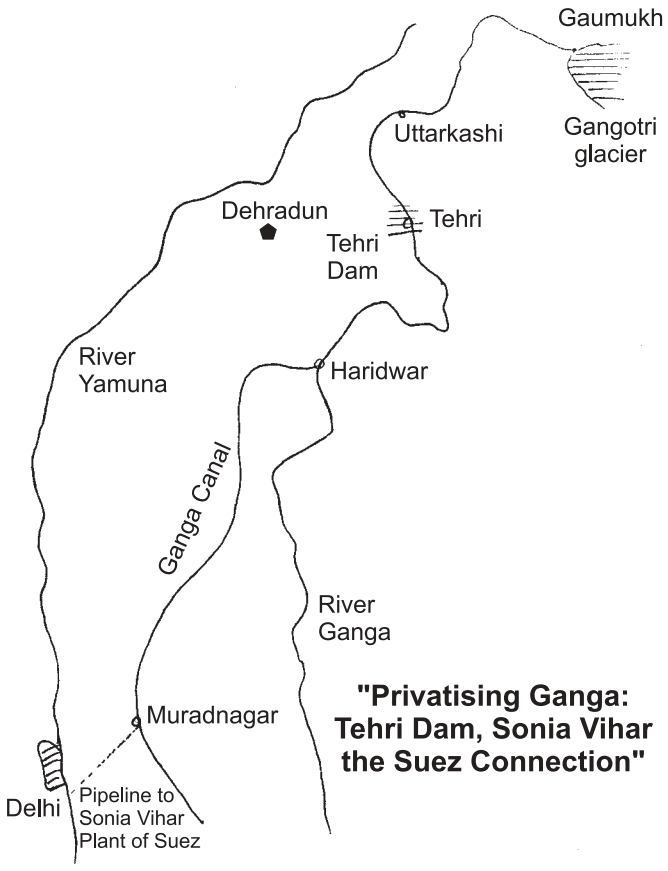
The Major effective party is the public due to non-commissioning of the plant as his money is involved and facing acute scarcity of water.

1. Public Money is under question mark : Public money amounting to Rupees 800 crore is at stake and non-availability of Raw water as put a question mark on it.
2. Interest liability on Public is increasing : The interest liability on public is increasing every day at the rate of 14% per annum that comes to 112 crore per annum or 30,68,493 per day.
3. Scarcity of water : All government attentions were based on this plant during recent past and no alternative was looked into hence resulted in acute shortage of water due to non commissioning of the plant.
4. Losses of revenue due to non-commissioning : The plant has to treat 140 MGD or 6,30,000 kilo litres of water each day due to non-commissioning Rupees 63,00,000 each day is added as indirect loss due to non-generation of revenue through expected treated water supply from this plant.
5. Losses in terms of payments of O&M cost to the company : After the test run Suez is entitled to claim for O&M cost that is 8 crores approximately.
6. Public has to bear penalty of Rupees 50,000 per day : there is a clause in the contract agreement that if DJB fails to supply water to Suez than DJB will pay Rupees 50,000 each day for such failure. Now the Public has to bear the penalty for not assuring water before entering into contract.

The total direct and indirect losses due to non-commissioning of Sonia Vihar is around 1 crore each day and till march 1, 2005 it has already incurred losses amounting to rupees 300 croes approximately on the basis of above data.

Sonia Vihar WTP : Only reason for non-commissioning

The only reason for non-commissioning of the plant is non-availability of raw water to treat and supply. Delhi government is unable to arrange raw water for



Source: Shiva, Vandana and Kunwar Jalees, 2003a, Sujalam Living Waters: The Impact of the River Linking Project, RFSTE.

the plant inspite of its best efforts. The main hurdle to get the water is non-availability of MOU to share the Ganges water between Delhi, Uttar Pradesh and Uttranchal and even the efforts are not obtaining results to ensure raw water and to get sign MOU between States to share the Ganges water from Tehri dam reservoir. Another major reason is that the reservoir is still not enough fill to discharge the water for Sonia Vihar WTP in such a situation no state is ready to share political risk in the condition when main beneficiary is a French based multi national corporations.

Sonia Vihar WTP : Reason for denial by Uttar Pradesh and Uttranchal

Government of Uttar Pradesh and Uttranchal are not agreeing to provide the water to Sonia Vihar WTP. Both the Governments are facing agitations on this issues and there is scarcity of water in these States due to which Governments are denying to release water for Sonia Vihar out of their own shares. There as political reasons also, releasing water to Sonia Vihar will mean political losses to the parties in power. UP government is unstable and hence cannot take risk of farmers annoyance since releasing water to Sonia Vihar means cutting farmers share allocated to irrigate their fields and inviting farmers agitation which is still on in western Uttar Pradesh. There is acute shortage of water in Upper Ganga Canal. One another reason is that Party in Power i.e. Samajwadi Party is in Power in coalition with Rashtriya Lok Dal (RLD), a farmers based political party having its base in Western UP. RLD can not manage annoyance of farmers. On the other hand the major argument that arrived from farmers is that they will not allow their water to quench the thirst of MNC profit.

Uttranchal Government has its own limitations as there is sacristy of water in the State and another agitation is on road for Ganges. The argument of the agitators is based on very sensitive and tender issue that Ganges is our mother and available to feed her children not for the corporate profits. They are going to public with this message. Under these circumstances there is not much hope that water can be made available to Sonia Vihar WTP till its O&M is with French based MNC, Suez Degremont.

(ii) World Bank Dictates Privatisation of Delhi Jal Board

The confidential Correspondence between Delhi Government and the World Bank gives a ringside view of the functioning of the Bank and how it guides or bullies governments and bureaucrats. The Delhi Jal Board (DJB) had to negotiate the quicksand of shifting conditions frequently laid down by the World Bank and finally had to sccumb to its dictates on choice of consultants for its water privatization programme. It was a decision worth some $ 2.5 million in which the DJB itself had very little say. And the consultant it chose prepared a report which the World Bank approved.

The story begins a little after the Delhi administration and the government approved the World Bank-funded water sector reforms in the national capital. The Bank offered a project preparation facility (PPF) loan of $2.5 million, a majority chunk of which would go to the consultant the DJB would assign. This consultant would then draw up a blueprint for water reforms in the city.

Then Bank's 'conditionalities' kicked in almost immediately after the loan decision was taken. After several meetings between the officials of the Bank and the DJB, the terms of reference (TOR) for the consultants were finalized on March 26, 1999. But only a moth later, the Bank wanted to add an annexure to the TOR, an independent regulator on the lines of power and telecom regulators.

But once the process began, the Bank wanted a specific instruction for the consultant: "produce advice for a regulatory system that insulates the services from any local government or other external interference and ensures its operational, managerial and financial autonomy". In other words, the government was to assign a consultant who would tender advice on how to keep the government out. The consultant finally did recommend that water tariff be depoliticized so that elected representatives would have no control over water prices.

Once the shortlisting of consultancy firms began, the Bank wanted to know their nationalities. This was to underline its condition that "at least one consultant from the developing country be included unless qualified firms from developing countries are

not identifiable". The consultant that qualified on this count was the controversial multinational firm – PriceWaterhouse Coopers (PWC)– which had opened its India office a few years ago.

Why was the World Bank so keen on PWC? It is one of the Bank's regular consultants and specializes in advising governments on privatizing public utilities. So the blueprint that PWC would draw up for Delhi's water privatization would be in tune with the Bank's economic Philosophy. Not only that, PWC also assists the World Bank's internal audit department.

As an auditing firm PWC has courted many controversies. It has fought numerous charges of auditing failures. Last year it was struck off by the Reserve Bank of India from its audit panel for lapses in auditing the failed Global Trust Bank. However, it was recently reinstated by the Calcutta High Court.

This was the consultant, ranked 10th by the DJB, which made it to the short list of six courtesy the World Bank. Finally, when PWC won the contract, almost one-third of the total $1.9 million contract money, $ 643170, went into the London HSBC account of PriceWaterhouse Coopers Development Associates. The Bank had specially asked the DJB to confirm the nationality of the shortlisted firms and give its 'No Objection' to the process only after getting PWC included as an Indian firm.

The Bank insists this payment to PWC Development associates, London, was to cover foreign expenses the consultant might have to incur on hiring experts and that there was nothing unusual or strange in this. If it is true, then PWC's 'developing country' arm, PWC India, should have received the forex component and not the London branch of the multinational firm.

Another interesting facet of the World Bank loan was that the Delhi government had to seek a 'No Objection Certificate' (NOC) for every small aspect of the loan programme. Even draft minutes of a conference of the DJB held of the shortlisted firms could be finalized only after the Bank's 'No Objection'.

There is a lesson to be learned here. The World Bank is keen on getting water and power privatized in the Third World, but it also makes money. Repyament is guaranteed, since it lends to governments. But the borrower's sovereignty is limited to taking the decision for a loan. From then on, it's the Bank which calls the shots.[15]

World Bank Arm-Twist[16]

Here's how DJB was pushed into choosing a consultant (PWC) of the World Bank's choice for water privatization.

- DJB takes $2.5 million loan to appoint a consultant to prepare a blueprint for water privatization.
- Multinational PWC's Indain arm shortlisted since Bank insists on a consultant from a developing nation.
- PWC fails to qualify. Bank wants criteria for evaluation changed, seeks explanation on why PWC did not qualify.
- PWC fails to make the grade in second round of bidding. Bank wants evaluation done minus one evaluator who graded PWC low.
- PWC finally wins the bid. It is shortlisted as a firm from a developing country. But almost one-third of its contract money goes to its London branch.
- In its recommendations, PWC says that given the termination of several private sector agreements in the water sector recently, it will be important to gauge the interest of potential private sector investors and determine the project structure accordingly.
- Although most of these problems related to the exorbitant tariff hike, PWC has sought further concessions for the private sector. Why, it had asked local authorities to raise tariff even before the privatization process began. Accordingly, Delhi Jal Board raised tariff by over 100 per cent.

The World Bank funded consultants have put in place a plan that works against the consumer and ensures that foreign private players (guidelines say they have to be roped in for the first five years) and their Indian partners rank in "guaranteed" profits.[17]

The consultants, at the very outset, have declared that the operators cannot but be foreign companies: "Since there is no experience in India in providing

[15] Ramachandran, Rajesh 2005a, "What Price Water?" Outlook, 11 July 2005, New Delhi.

[16] Ramachandran, Rajesh 2005b "Smell A Water At" Outlook, 1 August 2005, New Delhi.

[17] Ibid as reported in 15

24x7 water supply, it has been decided as a first step to outsource operation and management of two operation zones for a period of five years." The Delhi Government has already fulfilled this condition by shortlisting only foreign firms. The four likely players in the final stage of bidding are: Manila Water, Vivendi, Suez and Degremont.

People will have to pay an inordinately high price for water. One critical estimate puts an almost 800 per cent jump once the entire city goes private. A closer look at the various projections made by PWC and GKW Consult GmbH found that they had made it clear that the 24×7 promise would hold only if the "inefficient" DJB ensured sufficient supply.

The consultants have not only presumed that the gap between supply and demand will never be bridged, but have also projected a deficit of 246 MLD by 2011 once the water reforms are complete. So, the real issue of 24×7 water availability has to be addressed by means other than mere privatization.

Cracks in the Pipeline[18]

World Bank-backed privatisation will supply water in two zones in South Delhi as the pilot project. Much has been promised. But there is many a pothole in the roadmap.

Promises

- Round the clock or 24x7 water supply
- Efficient metering and collection of dues
- Rationalised tariff structure
- Better management of supply infrastructure
- Depoliticisation of water supply

The Downside

- 24×7 water totally depend on supply from Delhi Jal Board, which doesn't have sufficient water.
- Even after reforms, consultants estimate Delhi's deficit at 246 million litres a day.
- Parivartan, NGOs estimates water tariff will rise by 800 per cent once reforms set in.
- Government has been advised to award contracts only to foreign companies.
- Water privatization programmes have failed in various countries across the world.

18. Ibid, as reported in 15

Then, of course, there is the issue of the high water tariff. Arvind Kejriwal of Parivarthan, a NGO has some eye-popping projections based on a study of Delhi's proposed water commercialization. "If you remove all subsidies and cross-subsidies by 2011 as recommended by the consultants, the price of water for a middle class family will go up to Rs. 1,750 every month from Rs. 192 and for a slum-dweller form Rs. 52 to 350 per month. Such a huge hike may be difficult for may to afford."

These problems apart, the privatization plan runs something like this. The DJB has 21 water supply zones. Once privatized, each zone will have a core team of four managers, one senior manager heading the team, and a technical, commercial and operations manager each, GKW has also earmarked a monthly fixed 'fee' of $24,400 (Rs. 11 lakh) for each manager in the team. That works out of Rs. 44 lakh per zone per month and Rs. 924 lakh for the entire city. According to GKW, the core team would have to spend 228 person months spread over six years. All DJB employees would report to this team. In addition, there will be an annual operating fee which will depend on water supply quantity.

The new privatization scheme entails zero risk for the managing operator or the private player and involves just the distribution of the DJB water in the zone it operates in. The DJB has to obtain raw water, treat it, transmit it through main transmission lines and supply it at the input point of each zone. There onwards, the managing operator takes over. He routes the DJB supply to district metering areas (DMA) he manages. The DMA could be colony of houses or a block in a colony.

Going by PWC's projections, revenue from domestic consumers should go up from Rs. 69.4 crore to Rs. 725 crore during the first phase of privatization. Here too, it seems partial to the New Delhi Municipality Area inhabited by ministers and bureaucrats. The hike here is negligible, from Rs. 16.9 crore to Rs. 18 crore. The areas under military control in Delhi too would remain largely immune to the hike. But even after these "significant revenue enhancement initiatives", the consultants claim that the DJB's "cash deficit will be Rs. 1,746 crore by the year 2012". Which means, despite the reforms, DJB would still require cash grants of over Rs. 1,000 crore after the first phase.

Lack of transparency could also help the operator escalate its budget. Under the draft agreement, the operator prepares the annual budget and the project control committee (PCC) is "obliged to approve each annual operating budget". Interestingly, if the PCC that comprises only DJB officials fails to approve the budget on or before the commencement of the contract year, "the annual operating budget is deemed to have been approved". That is, elected representatives would have no say in the price of water that would be determined by the annual operating budget.

Worse, the contract between French company Degremont and the DJB for the treatment plant has a clause that states, "in the event of non-availability of raw water to the facility, the responsibilities of the contractor shall stand suspended. During such period of suspension, the Board shall be liable to pay to the contractor the base service charge the contribution towards reserve fund, the board shall be liable to pay inventory holding charges of chemicals and consumables". All this could come to around Rs. 3 crore a year.

With this one-sided deal inked with a foreign operator, DJB could well go the Dabhol way.

(iii) Some Plans in Hot Water

a) It has been never been smooth sailing for private players when it comes to domestic water supply. In the US, Philippines and Argentina, the experiment has met with failure. This is a fact recognized by the World Bank-funded foreign consultants advising the Delhi government on water privatization.

b) Giant water projects mostly benefit the powerful and dispossess the weak. Even when publicly funded, the beneficiaries are mainly construction companies, industries and large, commercial farmers. While privatization is general couched in rhetoric about the disappearing role of the State, what we actually see is increased State intervention in water policy, investment, subverting community control over water resources. Policies imposed by the Word Bank, and trade liberalization rules crafted by the World Trade organsation (WTO), are creating a sweeping culture of corporate states all over the world.

c) While privatization does not have a track record of success, it does have a track record of risks and failures. Private companies most often violate operation standards and engage in price gouging without much consequence. In Argentina, two of the largest private French firms, Lyonnaise des Eauz-Dumez and Compagnie General des Eaux, two of the largest British private firms, Thames Water and Northwest Water, and the largest Spanish public firm, Canal Isabel II, formed a consortium to bid for a World Bank financed water privatization project. Employees at the public sector utility provider Obras Sanitarias de la Nacion (OSN) in Buenos Aires were reduced from 7,600 to 4,000 in 1993. The unemployment of 3,600 workers has been touted as the most important achievement and indicator of success. While employment in water services went down, the price of water went up. Within the first year, water rates increased by 13.5 per cent.

d) It wasn't for concessions that the agreements were terminated, but for high prices. Water privatization in the Fillpino capital Manila was given to two companies – Manila Water and Maynilad in 1997. The MNCs raised tariff by 300 to 700 per cent. The Philippines government said no to further raising of prices in 2002. Maynilad pulled out in December that year.

e) In Tucuman, Argentina, where a subsidiary of the French company Vivendi entered into a 30-year agreement in 1995, the contract was terminated in just three years with consumers refusing to pay bills. In Argentenian Capital Buenos Aires, Degremont's parent company Suez terminated its contract in 2002 after nine years when profit margins collapsed with the country's economic turmoil. Incidentally, Suez has a presence in Delhi through Degremont.

The US too has seen failure. In January 1999, United Water, a subsidiary of Suez, has signed a 20 year management contract with Atlanta city. It was terminated within four years for lack of performance.

(iv) An Alternative to Privatization : Public-Public Partnership : A Dialogue Between Citizen and Government

Water crisis has been increasing every year. The scenario in metropolitan cities like Delhi may assume threatening proportions if immediate steps are not taken to avert the situation.

To discuss the problem a seminar "Public Public Partnership". A dialogue between citizens and Government was held at India International Centre in New Delhi on 8th Sept, 2004 which was organized by Research Foundation for Science, Technology and Ecology (RFSTE). Water Workers Alliance, Pani Morcha, Resident Welfare Association (RWAs). The employees of Delhi Jal Board (DJB) also shared their experience.

According to Dr, Vandana Shiva, Chairperson of RFSTE, "If Tehri water is diverted to Sonia Vihar in Delhi through Upper Ganga Canal, it may cause great environmental and social implications, besides increasing the land slides in the fragile Himalayas. This will also cause political conflict between UP, Poorvanchal and Delhi. We have already witnessed similar conflict between Haryana and Punjab over SYL. Tehri is the highest dam in the world of 280 metre height, if unfortunately it burst, water may reach up to Calcutta, playing havoc with the lives, and properties of the people."

The Financial institutions, like World Bank and Asian Development Bank promote and support the privatization which they call as Public Private Partnership. But RFSTE along with Water Workers Alliance have formed the alliance to promote Public Public partnership i.e. how public and government can find the solution of the water crisis. There are various ways and alternatives to the privatization.

Delhi has 9000 km of pipeline network: There is lack of data, lack of sufficiently trained manpower and low profile of maintenance. But through Public Public Partnership DJB may control, the unaccounted water. Project should be implemented at colony level or group of colonies under the supervision of Resident Welfare Association (RWAs).

There are some conventional means which will have greater potential to conserve the water and therefore reduce the water crisis. We should maintain adequate flow in Yamuna, as river flow recharge the ground water. Delhi has the possibility of big reservoir, so we should build such reservoir near Najafgarh and Sainik Farm. Colony wise, rain water harvesting must be promoted. Small rain water harvesting may be done at home.

Besides, there is the potential for using 'grey water'. Water from clothes washers, bath tubs, shower or bathroom sink may be called grey water. As much as 235 MGD of water can be saved in Delhi, if all the residents start using recycled 'grey water' for non drinking purpose. Grey water is the most effective as supplemental irrigation source, and car washing.

By using grey water, we reduce the need to pump ground water and reuse it as a resource and protect potable water for future. Grey water can also save money on water bill. A family of five generates about 70 gallon of grey water per day. That is a lot of water going down the drain that has already paid for and that can be reused.

Through Public Public Partnerships DJB can sustain financially. The only problem is the loan liabilities of about Rs 4000 crores, which infact is the legacy of parent organiation Delhi Water Supply and Sewerage Board. The initial amount was only Rs 1200 crores, which over the time has increased. It is an usual practice that whenever the government creates a new Department/Board/Organization, the loan liabilities are waived off.

Delhi Jal Board was constituted by Delhi Jal Board Act 1998 (Delhi Act no 4 of 1998) to discharge the functions of water supply, sewage disposal and drainage within the National Capital Territory region of Delhi. Accordingly it is responsible for supply of water, sewage disposal and collection of revenue for the services provided within the jurisdiction of MCD area and also supply water in bulk to the New Delhi Municipal Council (NDMC) and Delhi Cantonment Board (DCB) and respective agencies further distribute water in their corresponding areas. Similarly, Sewage generated from NDMC and DCB areas is collected by respective agency and taken up by DJB for its disposal.

Presently there are about 1.5 million water connections and around 2996 MLD (Million Liters per day) of water produced at its six water treatment

plants is distributed among the 1.5 million consumers. Delhi Jal Board DJB collects and treats 2337 MLD of sewage at its 17-wastewater treatment plants.

DJB was able to recover only 249.77 crore revenue from its all soruces in 2003-04. the scenario of revenue collection always remains more or less same. The main recovery of revenue comes from water charges that contributes 98% of the total recovery rest 2% comes from other sources like bio gas charges and bio fertilizer. During the year 2003-2004, when DJB recovered its highest ever revenue of Rs. 249.77 crores, only 35 lacs contributed from bio gas charges.

Delhi Jal board has following categories of consumers :

1. New Delhi Municipal Council and Delhi Cantonment Board
2. Bulk consumers
3. Domestic consumers
4. Commercial consumers
5. Industrial consumers

There are total number of around 14.98 million water consumers in Delhi utilizing DJB's water and allied services. Out of it 93% present of consumers are domestic, 6% are commercial and only 1% are industrial consumers.

In terms of consumption of water, 93% domestic consumers consume 86% of water, commercial consumers those are just 6% consume 10% of water and 1% industrial consume 4% of water i.e. 660 MGD or 2996 MLD.

Delhi Jal Board is in debt trap, the organization whose total revenue recovery has yet to cross Rs 250 crores and spent 370 crore per year to provide water and sanitation services to the citizens one day will certainly sink if the situation is not addressed and taken care of. Its accumulated debt will cross Rs 4000 crore in next few months.

There are some options available to the problem in which Government has to play a role.

Option A : Government may waive off the loan on Delhi Jal Board in one stretch as a social liability of it.

Option B : Government may waive off the loan on Delhi Jal Board in one stretch with the condition that Jal Board has to raise it's own financial resources in future and will not opt for loans. An assistant package may be considered for DJB.

Option C : Government may waive off interest on Delhi Jal Board and take liability of interest on it, and may also consider yearly financial assistant package for DJB as a social liability of it.

Option D : If Government declines to take responsibility of fiscal deficit, then public funding may be answer.

The steps need to be taken with Public-Public Partnership are :

- Reducing leakage or non-revenue water.
- Promote DJB's Bottled Water, 'Jal'.
- Utilization of sewage by products.
- Installation of Water connection by DJB (presently license plumbers do the work).
- Horticulture work (DJB has large vacant land)
- Water consultancy to other organization
- Deputing DJB staff on Tubewells/Waterwells (Presently run by contractors)
- Saving from optium dose of Alum, Poly Aluminium Chloride and Chlorine.
- Water assurance Programme.
- Recycling of Water.
- Saving on Energy.
- Internal reforms.

The reform is not daytime schedule. It takes time to achieve the targets and studies are required to check the results. The above scheme and alternative for the financial sustainability is summarized as :

1. Development charges from uregularised / unauthorized water connection = Rs 2131 Crore (in phase manner)
2. Increasing revenue = Rs 499 Crore.
3. Alternate source of income = 75 Crore.
4. Internal Financial reforms = 47 Crore.

Total : 621 Crore extras + 2131 crore (onetime)

Through Public Public Partnership DJB cannot only sustain but it can also earn the profits of Rs 621 crores per year without any staff retrenchment, no water privatization and no need to enhance the tariff.

A Public Full Cost Recovery Campaign : The Debt Suez Owes The People of India

Privatisation is based on the logic of full cost recovery. This means the introduction of fees for the service of the end-user, which the State can subsidise if it can afford to, and liberalization of markets, removing trade barriers and tariffs, and invariably resulting in increased privatisation. This also means that they should recover full cost invested in the infrastructure, payment of the salaries to the staff, costs involved in the maintenance and the huge profits. These corporates are never tired of preaching the principle of "full cost recovery" over the investment. These corporates should search their conscience before preaching the poor customers to pay the full cost of their investment.[19]

"The Ganga, which is our mother, has become our graveyard." Privatisation of water denies local communities their water rights and access to water in two ways. Firstly, the scarce and limited water resources are diverted, from the poor to the rich, from the countryside to towns, from agriculture to industry leaving water famines where people have no purchasing power, and providing water to those who have destroyed their own water resources through waste and pollution. Secondly, the state itself shifts from its function in providing welfare to the needy and most marginalized communities to the new function of providing public subsidies for private profits. Scarce and limited public finances are diverted to MNCs like Suez and corporations like JP, which is building the Tehri dam. Small-decentralized rural schemes are starved of both water resources and financial resources.[20]

The citizens of India are paying Suez either through high prices or through government guarantees. Suez owes the people of India a financial debt and a social debt. The financial debt owed by Suez to the Indian people includes the public investment in the Tehri dam and the Upper Ganga Canal of which Suez will become the sole beneficiary if the privatisation of Ganga water takes place. Suez would also owe the compensation to the farmers for annual production losses they will suffer.[21]

In addition, the privatisation will cost social and ecological destruction whose costs are impossible to quantify and hence the social and ecological debt is unpayable.

As the 635 million litres per day (MLD) of Ganga water will be diverted from the Upper Ganga Canal to Delhi, which would affect the agriculture potential of the canal and the food security of the region where the canal had been irrigating since last 150 years.

Suez is not bringing in private foreign investment. It is appropriating public financial investment. Public-private partnerships are in effect private appropriation of public investment. But the financial costs are not the only cost; there are other social and ecological costs as well.[22]

Suez-Degremont should pay Rs 158,149.31 crores non-recurring money (one time amount) and should pay about Rs 70,425 crores as recurring amount for the guaranteed period of ten years to the farmers and other affected persons, as illustrated below:

A. Non-recurring Cost

i. Cost of constructing Upper Ganga Canal in 2004 = Rs. 147,456 crores

ii. Suez Degremont is the direct beneficiary of Tehri dam. Therefore, Suez Degremont owes the responsibility to pay the full cost invested in the construction of Tehri dam as well as the rehabilitation cost of displaced persons. Suez Degremont should pay Rs 10,582 crores to the people of Tehri as explained below:

Cost of constructing Tehri Dam	= Rs 10,000 crores
Rehabilitation Cost of the people displaced by Tehri Dam	= Rs 582 crores
TOTAL	= Rs 10,582 crores

[19] Shiva, Vandana and Kunwar Jalees, 2003b, "Ganga Common Heritage or Corporate Commodity", RFSTE, New Delhi.

[20] Ibid, as repored in 19

[21] Ibid, as repored in 19

[22] Ibid, as repored in 19

iii. The cost of laying pipelines from Muradnagar to Sonia Vihar (to be borne by the Public) = Rs 111.31 crores

Total non-recurring cost (A) = i + ii + iii
= i.e., Rs 147,456 + 10,582 + 111.31
= Rs 158,149.31 crores

B. Recurring Cost

i. Upper Ganga Canal irrigates 924,000 hectares in 13 districts in western UP. As one hectare is 12.5 bighas, it irrigates 924,000 x 12.5 = 11,550,000 bighas.

At an estimate the per bigha income per year = Rs 3,500

So the total agricultural income from Upper Ganga Canal = 11,550,000 x 3500 = 40,425,000,000 = 4,042.5 crores per year

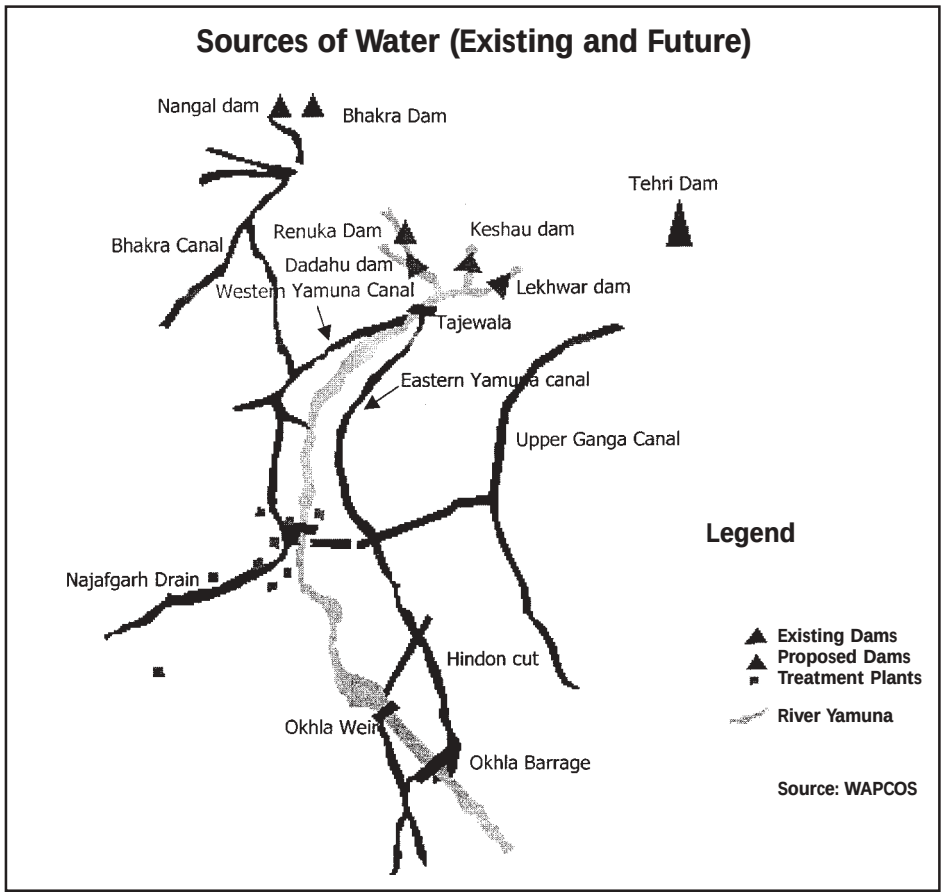
ii. In the rural areas the farmers, particularly marginal, small and medium farmers also do cattle rearing which is closely linked with the agriculture development. In all 13 districts where the land is irrigated by Upper Ganga Canal, the earning from the cattle rearing is around 2,000 crores per annum.

iii. Besides, there are a large number of people like blacksmiths, carpenters and others, whose survival depends upon agricultural activities. There are also a large number of landless labourers employed or hired by the farmers. It can be safely assumed that the total earning of these people is around 1,000 crores per annum.

Total recurring cost, i.e., annual income from agriculture, cattle rearing, by artisans and landless labourers (i + ii + iii) = i.e., 4,042.5 + 2,000 + 1,000 = 7,042.5 crores

For the guaranteed period of ten years the amount is Rs 7,042.5 crores x 10 = 70,425 crores

This is the basis of the full public cost recovery campaign by the people of India against the privatisation of Ganga by Suez.[23]



[23] Ibid, as repored in 19

6

Privatisation of Water Sector in Madhya Pradesh

Scenario in Madhya Pradesh

The state of Madhya Pradesh is one the first states of India where the World Bank's water restructuring Dec. 2003. It is also one which is the most advanced in terms of commercialization of the sector. According to the WB Project Information Document (PID), some of the main issues as identified by the Word bank research were; Lack of an appropriate legal, regulatory and administrative framework for a financially sustainable water sector. Lack of effective user participation and private sector involvement leading to poor services, heavy subsidies and lack of accountability. These have resulted in poor system performance, low cost recovery, a fiscally constrained Irrigation Department that is unable to finance adequate maintenance, effective operations and services, or needed system rehabilitation, remodelling or investment. The project aims to review and monitor water sector costs and revenues, and to rationalize and set bulk water user fees to enable the sector institutions to be financially self-sustaining. Irrigation and drainage reform and investment program would be carried out by the restructured MP WRD together with the farmer organizations and the private sector. Rationalized tariff setting and introduction of formal water markets would be carried out through the tariff regulator. At the end of this phase of the program, the pricing of water would be taken out of the political domain and entrusted to an independent (private) tariff regulator. This would minimize risks associated with inadequate water charges being imposed due to political constraints. The reform measures proposed for the irrigation and drainage sub-sector would according to the World Bank study improve the fiscal sustainability of the institutions currently operating in this sub-sector. Modernization of systems, volumetric delivery and sale of water, public-private participation would promote improved water use efficiency and productivity, billing and cost recovery would result in a sustainable growth environment. In the name of sustainability, an important feature of this loan is privatisation through the so-called "Public Private Partnerships". This type of restructuring is going have a huge detrimental impact on the water sector, especially on the poor and on critical sectors like agriculture.

The MPWSRP is based on Integrated Water Resources Management (IWRM) strategy and is first of its kind to be executed in the State. The Project has long-term (12-15 yr) programmatic framework, which would allow time for basin level planning and water allocation, and concept of river basin management to become firmly rooted.

The final Project Concept Document (PCD) of MPWSRP (November 2002) plans a holistic approach for water sector development and management in Madhya Pradesh. The strategy emphasizes an environmentally and socially sustainable basin approach for water resource planning and management, including rehabilitation of dams and canals; conjunctive use of ground and surface water. Agricultural intensification & diversification and increase in the fisheries production to be supported under this proposed intervention would contribute to creation of both additional on-farm and off-farm employment and create the enabling environment for private sector participation in this sector. Thus the project would contribute to the poverty alleviation and sustainable growth.

Water Sector Management Reforms: Creation of Apex Water Institutions at the State-level and in two focus basins together with strengthening socially and environmentally sustainable multi-sectoral water resources planning, allocation and management facility. (3.0%)

Irrigation Sub-Sector Management Reforms: Irrigation Sector Institutional Reforms, Capacity Building and Business Process Re-engineering. (18.2%)

Integrated Water Resources management (IWRM): In Two focus Basins-(Sindh and Tons). (3.0%)

Asset - Improvement, Modernization and Management including Public-Private Partnerships: In existing irrigation schemes located in the Chambal, Sindh, Betwa, Ken and tons Basins. (72.8%)

The project Indicative cost as assessed by the WB is US$ 330.00 M. World Bank share is 244 (US$M).The balance amount is proposed to be funded by ADB($30M) and the State ($56M). (74%:9%:17%)

Project Description

The Madhya Pradesh Water Sector Restructuring Project (MPWSRP) plans a an integrated development of the river basins for water sector development and management. User participation and private particiapation in planning and management and a demand driven process in water sector has been envisaged. The strategy emphasizes to create an environmentally and socially sustainable basin approach for water resources planning and management while incorporating all the recipes of unsustainability.

The MPWSRP is proposed to be implemented in the five basins namely Chambal, Ken, Tons, Sindh and Betwa due to their contiguity, high incidence of poverty, existence of ageing systems and presence of varied water management challenges. The Project comprises of the following four components and their related activities:

(A) Water Resources Management-Institutions and Instruments:

- Establishment of resource planning & allocation mechanism through establishment of State Water Resource Agency (SWARA) and State Water Resource Data and Analysis Centre (SWARDAC).
- Establishment of Basin Development and Management Boards; and
- Establishment of State Water Tariff Regulatory Commission (SwaTReC) for bulk water tariffs and rights regulation and assistance to Water User Associations (WUAs) and local self-governments shall be provided for retail water tariffs management.

(B) Service Delivery-Irrigation and Drainage Institutions:

- Right sizing of Water Resource Department with appropriate skill mix while transferring Integrated Water Resources Management (IWRM) functions to the apex institutions;
- Development of Management Information System, training & capacity building of WRD; and
- Initiating Public/private partnership in selected schemes.

(C) Improving productivity of selected existing irrigation and drainage assets in five basins:

- Asset Modernisation through rehabilitation of selected irrigation & drainage schemes with participatory system design, volumetric delivery of water to Water User Associations and real time monitoring & management of systems;
- Agricultural Intensification and Diversification including Horticulture and Livestock Improvement; and
- Development of Fisheries.

(D) Project Management:

- Development of Project Coordination and Monitoring and Evaluation Skills within the WRD; and
- Preparation of Phase II of the project.

ESA Findings & Analysis of Alternatives

Lea Associates South Asia carried out Environmental and Social Assessment and brought out issues that are of major significance in this project as identified through Screening and Scoping:

- Limited understanding and expertise on environmental and social issues related to basin plan-

ning, modernization of irrigation projects within the implementing agency and the farmers,

- Lack of data base on environmental and social parameters both at the head office and the field levels,
- Lack of planning and methodological water allocation among the various sub sector water users at the basin and sub basin levels as well as in the irrigation schemes,
- Limited consultations with stakeholders like farmer communities, NGOs and line departments,
- Lack of incorporation of environmental and social safeguard measures in the Irrigation Manual of the State and other contract clauses,
- Lack of evaluation and monitoring of environmental and social impacts of completed projects,
- Degraded Irrigation and Drainage assets leading to environmental problems and social tensions,
- Degraded social system at places due to lack of security, caste rifts, exclusion of women from the decision-making process, adverse role of liquor & gambling, high-level unemployment and lack of access to training, etc.
- Weak consultation framework in sub-project preparation.
- Weak linkages between WRD, WUA, Gram Panchayat and villages.
- Limited participation of vulnerable groups like tribals and women in irrigation and women in irrigation management, agriculture and allied occupations.
- Low awareness and participation of IPM and INM techniques in agriculture.
- Weak consultation, WUA problem's, Women Tribal, IPM, Integrated management.

A number of issues that not only influence present productivity of water in the basin but are also likely to influence the outcome of the proposed interventions for various projects. These issues relate to physical, environmental and social aspects of different projects. A number of alternatives, based on such aspects, were examined for likely benefits & concerns and strengths & weaknesses. The end result of such an assessment was formulation of a rational framework for planning interventions in various sub-projects which are inclusive of environmental and social parameters. It is expected that based on lessons learnt during and after each sub-project implementation, such alternative approaches may be further developed and suitable amendments be made in the Social and Environmental Management Framework (SEMF).

With the Madhya Pradesh Water sector Restructuring Project under way and Uttar Pradesh Water sector restructuring Project similarly moving ahead, it is very easy to comprehend why on August 26th, 2005, the MoU was signed between Up and MP for linking Ken and Betwa. The project envisages diversion of surplus waters of Ken basin to Betwa basin through the construction of Dandhan dam on Ken river and 231 km long link canal. Initially UP was hesistant in going ahead with MoU, but it is World Bank's loan pre-conditions that have facilitated the process.

6a (i). Conditionalities of the World Bank for Ken-Betwa Link :

World Bank Threatens Complete Commercialisation, Marketisation and Privatisation in Water Sector

The World Bank has sanctioned, on 7 Sept. 2004, a new loan for Madhya Pradesh Water Sector Restructuring Loan. In this project, the WB will give USD 396 million (Rs. 1782 crores)

This loan will lead to the complete and fundamental restructuring of the water sector in the state, implementing the full package of the standard Bank "reforms", transforming the sector into a fully commercial, market operation accompanied by privatisation.

It may be recollected that in 1996, the World Bank had sanctioned a parallel loan in the power sector to the State of Orissa - the Orissa Power Sector Restructuring Loan. This had become the model for the power sector restructuring all over the country even though it has terrible consequences. The M.P. water loan is meant to be a similar model for the country. It is likely to have similar serious consequences.

Some important elements of the project are :[24]

- Commercialisation of the Sector : The whole of the water sector will be transformed to operate on commercial lines. This means that those who pay will get the water and the service, those who can't will be left out.
- Increase in Tarrifs : Commercialisation will include, as its fundamental element, steep increase in the tariffs of water - especially for domestic use, for agriculture. The Loan document states that one of the main problems of the sector is the lack of cost recovery. It may be noted that the power sector reforms in the state have been accompanied by such steep hikes in power tariffs.
- Elimination of Subsidies
- Creation of the State Water Tariff Regulatory Commission : This new Commission will determine the bulk water tariffs in the State. (Its role in retail tariffs is not clear yet, but the retail tariffs will certainly be governed by the bulk tariffs). This Commission is on the lines of the Electricity Regulatory Commission, which now determines the power tariffs. One of the argument given by the Bank is that giving the Commission the power to set tariffs will remove tariffs from political pressure. What it means really is that the poor and the downtrodden, who can only influence the policies once every five years through elections, will now lose even that power. And the Government will hide behind the Regulatory Commission every time it is criticized for raising tariffs.
- Constitution of the State Water Resources Agency (SWRA) : The loan proposes to constitute a State Water Resources Agency, presumably so that it can function as an autonomous body.
- Large Scale Retrenchment : One of the key problems of the sector, according to the Bank is the overstaffing of the water resources department - even though there has been restricted recruitment since 15 years. It had identified 4500 people are redundant out of a total workforce of 20000. Most of these are class II, III and IV staff.
- "Voluntary" Retirement Scheme : The loan proposes to introduce a VRS program and has provided for 13 m US $ (Rs. 585 M) for it. It proposes that 1000 people will avail of the VRS scheme in five years.
- Privatisation : The Loan strongly advocates privatisation of various elements as the sector reforms. It aims at a primary target privatisation of 25 minor and 1 medium irrigation scheme. (The private agencies include WUA, panchayats and private sector according to the Bank).
- Water Users Association : It is proposed that water users associations will be formed in the state and in many cases the distribution will be handed over to them. This means that they will be responsible for billing and collection also. While WUAs can be a means to empower people, in the given "reforms" process, it appears to be a means to commercialise the sector and put the burden of facing the anger of the people on the community associations.
- Forcible New Legislation : New laws will have to be framed to enable many of these, especially the Tariff Regulatory Commission. It is also quite likely that the loan will force the State to hire foreign consultants to draft this new law. When the Delhi State Govt. wanted to bring in such legislation, a foreign consultancy firm was hired to draft the law.
- Consultancy : In keeping with the way the Bank operates, the loan too has provision for large number of consultancy assignments. Some of them, especially those dealing with the "reforms" are likely to be foreign consultants. The project provides for USD 20 m (Rs. 900 m) for consultancies.
- Role of DFID : The British Govt's official aid agency – the Department For International Development or DFID - is known for strongly pushing privatisation and reforms in India. DFID has had an important role to play in this loan. The Bank also says, in the loan document that "DFID" has expressed interest in working in the MP water sector with the Bank, particularly in the reform areas", and that "achieving synergy with the efforts of development partners

[24] Manthan 2005, "South Asia Network on Dams, Rivers and People, January 2005, New Delhi.

such as the ADB and DFID" is one of its rationale for getting involved in the project.

- DFID Trust funds to the tune of US $ 0.118 M have been spent through the WB for project preparation. One of the contracts given for the project preparation was the Social and Environmental Appraisal, which was done by one Lea Associates South Asia Pvt. Ltd.
- Issues - Problems and Challenges : The project identifies key issues in the water and irrigation sector, which are in a way the key problem and challenges seen by it:
- Lack of effective institutional coordination and particularly collaboration among department in different sub sector.
- Inadequate mechanisms and knowledge base for planning, allocating, developing and managing water resources in each basin.
- Lack of appropriate legal, regulatory and administrative framework required for financially sustainable water sector.

Issues Identified in Irrigation and Drainage sub-sector :

- Lack of effective user participation and private sector involvement leading to poor services, heavy subsidy and lack of accountability, poor system performance, low cost recovery, a fiscally constrained irrigation department that is unable to finance adequate maintenance, effective operation and services or needed system rehabilitation, remodeling or investment.
- Low Productivity of water due to the unreliable irrigation supply and inadequate extension services
- Lack of adequate and appropriate human resources in the sub sector, including badly needed critical management skills
- Large establishment costs in the sub sector take up a substantial portion of the state budget leaving only a small amount for operation and maintenance.
- Lack of adequate resources, which is constraining substantial investment, required to rehabilitate and modernize the dilapidated irrigation infrastructure and to expand irrigated agriculture.

Project Components : The project has four components, totaling to USD 439 million, out of which the Bank will give USD 396 m and MP govt the rest. The components are :[25]

A	Water Resource Management - Institutions And Instruments	US $ 7.27m
B	Service Delivery - Irrigation And Drainage Institutions	US $ 38.35m
C	Improving Productivity of Selected Existing Irrigation And Drainage Assets of Five River Basin	US $ 388.09 m
D	Project Management Support	US $ 5.52 m

Component A:

An Institution (State Water Resources Agency (SWRA)), would be developed for environmentally and optimal water resources management in a basin context through out the state.

An autonomous institution (State Water Tariff Regulatory Commission (SwaTReC) is proposed to be developed to review and monitor water sector cost and revenues, and for rationalized setting of bulk water user fees to enable the sector institution to move towards financial self sustainability.

At the basin level: The Sindh Basin Development And Management Board (SBDMB) and Tons Basin Development And Management Board (TBDMB) would be created.

Component B:

This component would support measures related to delivering reliable irrigation at rationalized cost by financially viable entitles.

Note that the word "rationalization of tariff" when used in the "reforms" process invariably means increasing tariffs. The reference to financially viable entitles means that ultimately there will be full cost recovery and all irrigation delivery will be done by agencies, which charge on basis of full costs. Same word "Rationalise tariffs" is used in Component A.

Component C:

The component would operationalize the concept and provide the necessary investment in five basin (Chambal, Sindh, Betwa, Ken & Tons) for

[25] Ibid, as reported in 24

1. Reliable delivery of water measured and supplied on an appropriate volumetric basis in the irrigation systems of these basins to improve system performance, cost recovery and accountability of the services provider
2. An outcome oriented approach with integrated sustainable agriculture intensification, diversification &
3. Improved operation and management of the irrigation and drainage schemes, including participatory user management and private sector participation."

Component D :

This component would support measure related to the management of the project.

6a(ii) Memorandum of Understanding (MOU) for Ken-Betwa Link

A Memorandum of Understanding (MOU) dealing with Ken-Betwa River Link was signed on 25th August, 2005 by Uttar Pradesh Chief Minister Mulayam Singh Yadav, Madhya Pradesh Chief Minister Babulal Gaur and Union Water Resources Minister Priya Ranjan Das Munshi. On the occasion of signing MOU, Prime Minister Dr. Manmohan Singh was also present.[26,27,28,29,30,31,32]

As per the MOU, the Centre would decide on the necessary organizational frame work to complete the Detailed Project Report (DPR) and implement the project. The MOU calls for specific agreements, based on the (DPR) between the two states on the scope of link, the sharing of costs and benefits and an arrangements for management and control of water. The Centre would bear the entire cost for preparing the DPR estimated at Rs. 30 crores. A sum of Rs. 6 crores had been set aside on this budget, and for the rest, the Ministry would raise a demand in the supplementary demand for grants.

Mr. Yadav referred to Uttar Pradesh's fears that the reduced availability of water at the Paricha weir could affect irrigation in Jhansi, Jalaun and Hamirpur. He also sought compensation from Madhya Pradesh for any loss of power at down stream of Rajghat and Matiala dam due to low availability of water.

The proposed link would transfer 1020 million cubic metres (mcm) of water from Ken to Betwa. However, contrary to the myth of 'Surplus' water, Ken had a balance of 342 mcm after the existing irrigation and drinking water demands were taken into account. Thus, project would divert three times more than the available water, leaving a deficit for regions downstream in UP from the diversion in the Ken-basin. River-linking project is in effect a dam and canal building bonanza for corporation and contractors.[33]

The activists claims that the project which includes a dam on the river Ken and a 231 km canal joining it to the Betwa will submerge villages and roads and ruin vegetation and wildlife on both river's banks. The agreement was signed on the basis of a rough feasibility report. The feasibility report concedes that the project will submerge some about 100 sq. km in Panna, Chhatarpur and Damoh districts - including to 8550 people in 10 villages and about 37.5 sq. km of forest land as well as 30 km road in Ganga-Shahpura in Madhya Pradesh. Geologist such as V. K. Joshi, former regional director of Geological Survey of India too has criticised the project saying it will damage the ecosystem of both rivers.[34]

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[26] Parsai, Gargi 2005, "Agreement on Linking of Ken and Betwa Rivers Signed", Hindu 26 August, 2005, New Delhi.

[27] Hindustan Times 2005, "River-Linking Takes off, Finally", 26 August, 2005, Hindustan Times, New Delhi.

[28] Times of India 2005, "PM Strikes Cautious Note as MP, UP Ink River-Linking Pact", 26 August, 2005, Times of India, New Delhi.

[29] Indian Express 2005 "River Linking, Historic MOU on Ken-Betwa Lays Foundation for Rs. 40,00 Crore Project", Indian Express, 26 August, 2005, New Delhi.

[30] The Pioneer 2005, "Mulayam and Gaur Ink Historic Ken-Betwa Link", The Pioneer, 26 August, 2005, New Delhi.

[31] The Statesman 2005, "Ken-Meets Betwa in Heartland India", The Statesman, 26 August, 2005, New Delhi.

[32] The free Press Journal 2005, "Work on River Linking Underway: States Sign First-Ever Linking Pact", 26 August, 2005, The Free Press Journal, Bombay.

[33] Hindu 2005 a, "Ken-Betwa Link Will Spell Disaster", 25 August, 2005, Hindu, New Delhi.

[34] Chakraborty, Tapas 2005, "Ruin-roar Goes up Over River-Link", The Telegraph, 27th August, 2005, Kolkata.

The Panna Tiger National Park in Madhya Pradesh will also suffer when Ken and Betwa are linked. About 50 sq. km of land, a habitat to many endangered species that fall under the Wild Life Protection Act, 1972 face displacements and submergence threats.

Environmentalist Dr. Vandana Shiva has been calling it an "ecological disaster". She has been reiterating that the project is based on the false assumption that water from surplus can be diverted to deficit rivers. The truth is that there are no surplus or deficit rivers. There are only living and dead rivers. Rivers live where river basins are ecologically managed.[35]

Ken-Betwa river linking has run into many controversies, with environmentalists, economists and social scientist questioning the wisdom of investing in a project that has long term ecological consequences that may do more harm than good to the national ecological balance in the long run and usher in changes which may be beyond remedy or control. Environmentalist, who confess that not enough scientific data is available to make a proper assessment of such project, have also warned countries that have experimented with linking rivers have not been satisfied with the results. This apart, there is the other important human problem involved in the resettlement and rehabilitation of thousands of citizens who will be displaced when vast acreages get submerged.[36]

Today, project is estimated to cost about Rs. 4263 crores though only three years back it was estimated about Rs. 1900 crores more than two times increase in the cost in a short span of time of three years. Project will be completed by 2014 in 9 years time. No one knows how much will be the cost escalation in this project.

6a (iii) Summary of Ken-Betwa River Link:
The First Link in the River Linking Project

In 2003, the Government announced a mega $ 200 billion (Rs. 560,000 Crores) diversion project called the River Linking Project. The core project involves the interlinking of Himalayan rivers and interlinking of rivers of Peninsular India. The project is being promoted for increasing irrigation potential and controlling floods by diverting water from rivers identified as "surplus" to rivers identified as "deficit".

In his independence day address from historic Red Fort, the former Prime Minister Shri Atal Behari Vajpayee announced that the first link to be taken would be the Ken - Betwa link in Bundelkhand region of Madhya Pradesh and Uttar Pradesh

"The ambitious project to link all major rivers of the country will start by the end of this year;. While the first project will link the Ken and Betwa rivers in Madhya Pradesh, the second will connect the Parvati, Kalisindh and Chambal rivers in Madhya Pradesh & Rajasthan". (Excerpts from the Speech of former Prime Minister delivered on Independence Day the 15th August 2003).

River- Linking And Ken - Betwa Link

The idea of linking the rivers of India has its roots in the thoughts of Sir Arthur Cotton, the pioneer of canal system in India and Dr. Visveswarya, the stalwart engineer and architect of the modern Karnatka. The idea was further extended by Dr. K L Rao, the legendary Irrigation Minister of India and Captain Dastur, a pilot. Rao and Dastur thought of the Ganga-Cauvery Link Canal and the Garland Canals respectively. Rao's ideas were based on his identification of some river basins in the country as surplus and some others are as deficit, and seeking solution to the problem of water scarcity in many parts of the country by connecting them through a National Water Grid. Dastur proposed an impressionistic scheme, which became known as Garland Canal Scheme to feed Himalayan waters to the peninsular parts of the country by means of pipelines National Commission for Integrated Water Resource Development Plan. (NCIWRDP) found this scheme prima facie impractical. Both the proposals were examined and were not found worthy of being followed up.

The recent revival of the idea of interlinking of surplus basins with deficit basins has been the result

[35] Singh, Santosh 2005, "Hobson's Choice", The Statesman, 31st August, 2005, New Delhi.

[36] Deccan Chronicle 2005, "River Linking", Deccan Chronicle, 31st August, 2005, Hyderabad.

of work done by the National Water Development Agency (NWDA) and bears a conceptual continuity with Rao's proposal. However, the recent hurry of the government in the execution of the project is rooted in the order of 31 Oct., 2002 by the Supreme Court of India, issued in connection with a Public Interest Litigation (Writ Petition (civil) No: 512/2002). Commenting on the long time period of 43 years as identified by the NCIWRDP for the completion of the proposed interlinking project, the Supreme Court ordered that:

"It is difficult to appreciate that in this country with all the resources available to it, there will be further delay of 43 years for completion of the project to which no state has objection and whose necessity and desirability is recognised and acknowledged by the Union of India we do expect that the programme drawn up would try and ensure that the link projects are completed with in a reasonable time of not more than ten years."

The recent wider interest in the NWDA proposals for interlinking of rivers needs to be seen in the background of the assessment by the Central Water Commission (CWC) of the two earlier proposals by Rao and Dastur. It had mentioned specifically that Rao's proposal was "grossly under-estimated" and that the scheme "will also have no flood control benefit. Therefore the "'proposal was not pursued as such". Regarding the proposal by Dastur, the CWC and associated experts were of the opinion that, the proposal was technically unsound and economically prohibitive. Given the fact that the present proposal on interlinking supports the general idea of transferring water from surplus to deficit basins.

On the basis of the National Perspective on water resource development, the interlinking project has two components; the Himalayan and the Peninsular. The Himalayan component includes construction of storage dams on the main tributaries of Ganga and Brahmaputra to transfer surplus water to the west. The Peninsular component involves connecting rivers like Godavari and Mahanadi that have surplus water with rivers like Krishna and Cauvery. 30 link canals are envisaged, of which 14 will be in the Himalyan Component and 16 in the peninsular component. On the whole, the inter linking project is aimed at providing large scale human induced connectivity for water flows in almost all parts of India. This indeed, is the largest construction project thought of in the world as of now.

The project is claimed to be the answer to the country's problem of recurring floods and drought in different areas; the generation of hydroelectric power is also put forward as a justification. The need for hydroelectric power may lead to the formulation of particular projects in specific locations; it would not by itself take us to the idea of linking rivers.

Incidentally, the linking of rivers or inter-basin transfer generally requires much energy normally in excess of what the project might generate but in this case we are told that the project will be net generator of large quantities of power: a figure of 30000 MW has been mentioned. That strains our credibility and will need careful examination with references to each link.

Similarly the problem of recurring floods in certain rivers or areas may lead (rightly or wrongly) to the formulation of specific projects with flood control as one of the objectives (or a primary objective)- for instance, the DVC projects, a high dam on the Kosi, and so on and will not by itself call for a linking of rivers. It must also be noted that opinion on flood control has changed over the years. It is now generally recognized that big dams play only a modest role in flood moderation. Even if all the river-linking proposals are implemented, the contribution that this will make to the mitigation of the flood problem will not be substantial. Dr. Bharat Singh, a doyen among engineers and the former Vice Chancellor of the Rourkee University, has observed "Any water resources engineer will immediately discard inter-linking of rivers as a flood control measure".

As regards drought, we have the answers, already Rajendra Singh has shown in Alwar District in Rajasthan that rainwater harvesting can be practised successfully even in low-rainfall areas. Earlier, Anna Hazare had brought about a transformation through water harvesting (along with other measures) in Ralegaon Siddhi (which is also a low-rainfall area). The Madhya Pradesh government has initiated state wide programmes of water harvesting and conservation. The primary answer to drought has to be local. Besides, the river-linking project, if implemented will take water only to a small part of the target areas and drought prone areas; large parts of such areas will remain unserved.

Ken-Betwa link is one of the 30 links proposed by Ministry of Water Resource, the Government of India to take up the construction of two link soon, the Ken-Betwa link serving Uttar Pradesh and Madhya Pradesh and the Parwati-Kalisindh-Chambal link, serving Madhya Pradesh and Rajsthan. Both the links at the initial estimate were expected to cost about Rs. 4000 crores including mandatory provisions for safeguarding ecology and environment. But now, Ken-Betwa link it self will cost about Rs. 4200 crores.

According to Shri Suresh Prabhu, Former Chairman Task Force constituted for the implementation of the scheme of interlinking of rivers, "The Ministry of Water Resource had formulated a National Perspective Plan for water resources development, entailing transfer of water from water surplus basins of deficit areas by interlinking of rivers". Industrialists are of the view that project will open up opportunities for the industry, for companies, civil and piping, pumping machinery, manufacturing of prime movers and electricity generating equipments, electronics and instrumentation.

The linking of river Ken with Betwa is proposed within the first phase of the Indian Government's project of interlinking of rivers. The interlinking of rivers is estimated to have an expense of Rs. 560,000 crores. This is when the Government of India is already facing a fiscal deficit and has abandoned 400 major and medium projects costing Rs. 156,500 crores. Under Ken-Betwa river linking project, constructions of a dam with a height of 73 metres on River Ken in Bundelkhand on the border of Chhattarpur and Panna districts and 231 km long canal are envisaged of which the latter will connect Ken and Betwa. Seventy-five per cent of the initial estimate of Rs. 1988.74 crores, (Now about Rs. 4200 crores) supposed to be spent under this project, will be extracted from the local peasants out of various taxes to be imposed for around 25 years. That is why the government is proposing such crops, which are water intensive leading to hike in water tax.

Ken River: Like Betwa, Ken is also an inter-State river flowing through the States of Uttar Pradesh and Madhya Pradesh. Its place of origin lies in district Jabalpur in MP. The length of river Ken is 427 kms till it meets Yamuna. Of this, 292 kms are covered in MP while UP holds 84 kms of its flow. Ken flows the rest of its length covering 51 kms through the border between these two States. Ken river joins with Yamuna near Chilla village in UP. The river Ken flows through the districts of Jabalpur, Sagar, Damoha, Panna, Satna, Chhattarpur and Raisen of MP and Hamirpur and Banda of UP. The tributaries emptying in Ken are the following:

1. Alona
2. Virna
3. Sonar
4. Mirhassan
5. Shyamri
6. Banne
7. Kutari
8. Urmil
9. Kail
10. Chandraval

Betwa River: Betwa river originates from the district of Raisen in M.P has a total length of 590 kms, covering 232 kms in MP and 358 kms in UP. The river Betwa flows through the districts of Tikamgarh, Sagar, Damoha, Raisen, Bhopal, Guna, Shivpuri and Chhattarpur of MP and Hamirpur and Jalaon of UP. The major ones among its tributaries are:

1. Bina
2. Jamni
3. Ghasan
4. Birma
5. Kaliasot
6. Halali
7. Bah
8. Narayan, etc.

Horrific Devastation: Research Foundation for Science, Technology and Ecology (RFSTE) has studied the possible negative fallout of Ken-Betwa interlinking. Which will lead to the following devastating impacts:

1. Negative impact on land, forests and biodiversity
2. Displacement due to construction of dams and canals

3. Impact on conventional / traditional agriculture
4. Escalation of flood and drought
5. Impact on fisher men and water bodies
6. Deterioration in mutual relationship between communities
7. Hurt on social, cultural and religious feelings

Impact on Forests and Bio-diversity: Fifty sq. kms of land under Panna Tiger National Park will be submerged, once this interlinking project comes into effect. This national park through where the Ken flows is a natural homeland of aquatic fauna such as crocodiles and alligators. The Park has ten such species listed under Schedule - I of the Wildlife Protection Act 1972 that are endangered. This interlinking and transfer of water will affect not only these animal species but also the vegetation, as lakhs of trees would be cut. Even after losing all these, the Government of India is considering that this step will enhance the environment and increase the revenue for both the Central and State governments, which apparently is not true. And thousands of workers have to reside, eat and drink there. Further causing detrimental impacts on the flora and fauna. The way of development is exemplified as in the case of district Lalitpur that has the largest number of dams in Asia, which should have been in the world map of wealth and resources today, only 20% land is irrigated.

Displacement: Government of India has proposed altogether five dams under this project of interlinking, one on Ken river and four on Betwa river, which would displace around 10 villages. All these five dams are coming in protected and reserved forest area. The four dams to come in Betwa river would submerge 800 hectares of forest.

Inter-State Dispute: While Government of India wants to transfer 1020 million cubic metres of water to Betwa, the Irrigation Departments of UP and MP are of the opinion that the Ken does not have that much of water. While 342 million cubic metre of water is available in Ken and 373.13 million cubic metres water is available in Betwa. That means that the Government's aim of transferring water from the so-called surplus areas to water-short areas cannot be realised. Moreover, as Ken does not have surplus water and as Betwa has enough water, the river belts of Ken and Betwa will respectively get affected by drought and flood. Today, there are around a dozen of disputes between the governments of UP and MP on the issue of water. One such dispute will come up among these, which would create differences between the farmers residing in the border areas.

It should be noted that Ken-Betwa link canal would go through places where means of traditional irrigation had already been available since as back as 500 years. Tikamgarh is going to be one such district that will get the facility of irrigation through this new system of canal when Tikamgarh is already coming within the most irrigated agricultural area in the whole of Bundelkhand, through the ponds constructed by the kings of Chandel and Bundel dynasties.

Effects on Traditional Agriculture: Study reveals that this interlinking is worthless and meaningless. When the whole world is trying to conserve water on the one hand, the Government of India on the other is not only promoting high-water intensive crops but also destroying the existing old system brought in to preserve water. A glowing example of this kind of experience can be found in the case of Lalitpur and Tikamgarh districts. Here, government promoted the cultivation of soyabeans. After cultivating it for few years, farmers left it as they incurred heavy loss. Then, they returned to the conventional ways of farming. Farmers not only incurred financial losses, but they had to face drought after losing the traditional means of water conservation.

Evaluation of Flood and Drought: The study by RFSTE shows that even after escalating drought in 40 villages affecting 75,000 hectares of land in the district of Banda and flood in 200 villages causing devastation in four lakh hectares of land in Hamirpur district, the link canal will remain without water for four months during summer. Species of fishes in many ponds and lakes, known throughout India by the name of various ponds and lakes will be lost. The fishermen whose livelihood is dependent on these fisheries will face severe famines. The number of such people will be 5,000 in Chhattarpur and 15,000 in Tikamgarh.

Water Sovereignty: RFSTE has taken up these issues and organised a Water Parliament under the Campaign for Water Sovereignty on 23 July 2003 at Satar

located in Orchha, Tikamgarh which falls on the birthday of Chandrashekhar Azad famous freedom fighter The place, located within the region of Satar, Orcha and Tikamgarh in MP, is purposefully selected because it was here that Azad took refuge to remain free from imprisonment. The Water Parliament was convened to dissiminate the information among the people about the Government proposal to interlink Ken and Betwa. Govt., wants to obstruct their independent flow. The Water Parliament vehementaly opposed the interlink of Ken-Betwa, the proposed interlinking can offer the farmers of Bundelkhand only trouble and nothing else.

The people's assessment of Ken-Betwa link raises and answers five basic questions

1. Is the Ken river "Surplus"?
2. Will the river link from Ken to Betwa contribute to increasing irrigation potential and food security?
3. Will the river link contribute to flood control?
4. What will be the impact of the river diversion on the ecology of Bundelkhand?
5. What will be the impact on potential conflicts between communities and States?

The assessment of the river link is negative for all five issues.

The project is based on diverting 1020 mcum of water from the Ken river to the Betwa river, However, according to the government's own reports, Ken has a balance of 342 mcum after taking into account existing irrigation and demands. There is therefore, no surplus water in the river Ken.

The project claims to create 4 lakh hact, of irrigation potential. However, the diversion will lead to 6 districts being deprived of irrigation. Further, the project involves the destruction of diversity of crops by proposing of 77% of Culturable Command Area (CCA) paddy in place of 7.74%, hence government is planning to create 69.26% more paddy, which is a water intensive crop. 7.75% of CCA for Sugacane, 17% of CCA for Jowar & Maize in place of 36.96% of CCA, for Pulses CCA is 24.71% less than existing system. Therefore, govt. is going to reduce the water conserving crops, which are nutritious, and the backbone of the poor people health. Similarly in the case of proposed cropping pattern. Besides the existing cropping pattern in all three commands are 101.38% Wheat, 25.84% Gram (in enroute command). In existing cropping pattern there is no Soyabean and Sugarcane, on which the project focuses. Hence, the traditional crops diversity will be destroyed.

The project is not creating new irrigation potential. It is taking water from living river Ken that is home for hundreds of Crocodile & Ghariyal, to proposed but dead dams. This was proved by the Govt's river linking plan that will take Ken water to

Coopting Cooperative Governance Systems to Privatize Water[37]

Pani Panchayatand Swajal Schemes of the World Bank

By usurping the word 'Panchayat' for creating user groups or 'stakeholders' who pay for water, the world Bank is undermining the concept of community control over this natural resource. The World Bank's Pani Panchayats or Water committees do not represent the entire community, but are formed with those who have financial, social and political clout, and who support the local administration. Special Purpose Vehicles (SPVs), take control over the community's water resources, operate and manage it return for fees paid by the users. Users have to repay the capital (fixed assets) costs over the period of time, and have to pay immediately in full for the operation and management. In Orissa, the price of lift irrigation water to users has increased almost 10 times since the creation of the Pani Panchayats.

In Uttaranchal and the Utter Pradesh, the World Bank scheme for water privatization is known as "Swajal". Of the total cost of US $ 71 million for the time bound (1996-2002) project, the World Bank's share is 84%, the state government 5%. The rest of the cost (US $ 7.64 million has to be borne by the user groups. In addition, the groups have to bear the entire operation and management cost from the inception of the project. Thus, for latrines and other individual assets such as compost pits, each user pays almost 40% of the capital costs, taking sanitation and sustainable agriculture out of the reach.

[37] Shiva, Vandana and Radha Holha 2002, "Privatization of Water: Some for All or All for some" RFSTE, New Delhi.

proposed four dams in upper Betwa basin i.e. Neemkheda dam, Richhan dam, Barari Barrage and Kesari dam. The area irrigated by these four proposed projects is 1.02 lakh hact. If the Betwa water and these four dams had been sustainability managed these would not need to draw water from Ken-250 miles away. The non-sustainabile planning of the proposed dams in upper Betwa basin indicates that the diversion project itself could face a similar non-sustainable fate. The river linking merely reproduces and enlarges non-sustainable water use.

The project cannot contribute to flood control since both Ken & Betwa originate from the same catchment region with the same rainfall & topography. When one river is in flood the other will also be in flood. The project will increase flood impact by blocking the natural drainage of the river basins.

The dam for the river diversion is being constructed in the heart of Panna National Park. This will uproot and displace 900 families, 8550 persons & 10 villages. It will also threaten the wildlife in the National Park. The diversion of Ken water will create conflicts between people in Ken-Betwa basins in Bundelkhand and between the states of M.P. & U.P.

The Jal Swaraj Abhiyan of the Research Foundation for Science, Technology & Ecology / Navdanya organized participatory research to assess the impact of the Ken Betwa link on the ecology, economy and culture of Bundelkhand among organisation working on water conservation in the region. A "Jal Sansad" (Water parliament) was also organized to involve the people of Bundelkhand in decision making about their water systems, rivers and natural resources.

6 b Water Crisis in Bhopal

In Madhya Pradesh, potable water has virtually disappeared. Cities like Indore, Bhopal, Gwalior, Jabalpur, Neemach, Khandwa and Dewas which earlier had no problem are facing great crisis.

Bhopal used to be a city of lakes, atleast there were seven lakes in the city.

1. Motia Talab
2. Siddique Hasan ka Talab
3. Munshi Husan ka Talab
4. Lohia Talab
5. Shahpur Jheel
6. Bada Talab (Upper Lake)
7. Chhota Talab (Lower Lake)

It is an irony that even the city of lakes is no exceptions to water crisis, that is fast becoming global phenomenon. The water crisis in Bhopal has made headlines over the last few years despite adequate water storage. Politicians have grabbed their chances with gay abandon whenever it was possible to cash in on the crisis which some times appear to be result to the Bhopal Municipal Corporation (BMC) mismanagement rather that water scarcity.

(i) ADB Loan to Bhopal and Other Cities

The solve the water crisis, in Bhopal, Indore, Gwalior and Jabalpur the State Government has drawn the schemes with the loan from Asian Development Bank (ADB). The amount sanctioned for different

Table 6b (i)
Amount Approved for four Cities by M.P. Government

City	Amount (Rs. In Crores)
Bhopal	186
Gwalior	220
Indore	690
Jabalpur	270
TOTAL	**1366**

Table 6b (ii)
Contribution of Different Agencies

Agency	Amount (Rs. In Crores)
ADB	900
State Govt.	228
Municipal Corporations	235
U N Habitat	003
TOTAL	**1366**

cities is given in Table 6b (i). Table 6b (ii) gives the contribution of different agencies.

Out of the total amount of Rs. 186 crores for Bhopal, the ADB component is Rs. 133 crore, the details of ADB loan is given in Table 6b (iii).

Table 6b (iii)
Details of ADB Loan to Bhopal

Item	Amount (Rs. In Crores)
Water Supply	60
Sewage and Sanitation	48
Solid Waste Management	11
Poverty Alleviation	12
Total	**133 Crores**

(ii) Water Sources in Bhopal

Table 6b (iv) gives the water sources in Bhopal.

Table 6b (iv)
Water Sources in Bhopal

Source	Supply (MGD)
Kolar Reservoir	35
Upper Lake	26
Under Ground	5
Total	**65**

Bhopal is worst hit during summer, for instance people in Indrapuri and Sonagiri near BHEL Colony have been facing acute water crisis during last one decade. The scenario becomes worst in every summer. “Water is available for 30-45 minutes and there is no certainty about the timings, low pressure is another problem” says one resident of Indrapuri.

There are the occasions when the water from the sewer gets mixed with the main pipeline. Despite the repeated requested, government officers do not bother.

Another lady Smt. Guddi Bai says "Earlier there were two tubewells which now have gone dry. There is only one connection for 500 jhuggis in Indrapuri". The small kids of 8-10 years can be seen fighting for a small pot of water. These kids are assigned the responsibility to fetch water because parents go for work.

Even the pregnant and sick women can not be spared to avoid the difficult task of collecting water. There are the women which have developed health problems due to water.

Many times the women of Indrapuri go to J.K. Road, nearly 1.5-2 km away to fetch water, that too from leaking pipeline.

In the slums opposite to Union Carbide about 20000 people still get contaminated water Union carbide should remove the contamination of the ground water and soil in and around the abandoned factory and provide for the supply of safe drinking water.[38] In the slum of J.P. Nagar it is common to see the people, particularly small girls collecting water from the leaking pipe. It usually takes 30 minutes to fill one bucket but this is the only source for the poor of the area. These people are always worried what would happen if the leaking pipe is repaired.

Every where, for people water has turned to be the daily problem. Either there is no water or the pressure is low or it is polluted. And the situation is worst in Old Bhopal, for instance Tila Jamalpura, Chhola, and Karond. In Tila Jamalpura people are able to collect water only for drinking purpose, for rest of the necessities they have to fetch water from other places.

Residents of Multistoreys face more problems. Due to low pressure, water does not reach to second or third floor. It is difficult task to take the bucket of water from ground to other storeys. In some places like Old Subhash Nagar there is turbidity in water. People add alum to water to clean it.

There is severe shortage of water in Govindpura Industrial Area. The Water Supply System developed by Laghu Udyog Nigam is 30 years old and defunct, on the other hand, the ground water has gone down to 350 feet. Most of the industries are compelled to purchase water. Only three dozen industries get water from the existent network. At an estimate about one million gallons per day is required by the industries. The industries are willing to pay higher water tax, if water is available.

Facility for Public Stand Posts (PSPs) is being misused blatantly in many parts of the city. According to an estimate, there are over 10,000 PSPs spread all over the city. However, the Bhopal (BMC) estimates that there are about 8,000 PSPs. Surprisingly, 90 percent of these PSPs are being used for personal purpose. At a place in Jahangirabad, a

[38] Bunsha, Dionnie 2004, “The Long Journey From Bhopal”, Frontline, 2 July, 2004, Chennai.

PSP is installed in front of a liquor shop. The PSPs at hotels, temples and mosques have been very common. Some PSPs and tube-wells are being used by operators of vehicle service stations. In a ward of walled city having population of wealthy people, PSPs were installed in front of many houses under pressure of an influential local corporator.

The water tax for about 20 connections in the Habibganj Police Station campus has not been realized. The BMC had threatened disconnection of water supply in this campus but to no avail. Similarly, many bungalows of bigwigs in the VI areas are having more than one illegal connection. Some years back, BMC had caught some illegal connections at Char Imli. But, this had created trouble for BMC, which could not get the Government grant (compensation of abolished local taxes) for some months.

If the facts revealed by the BMC are to be believed, it comes as a major surprise that the State capital should be facing water crisis. The reservoirs in the city have water capacity that can easily cater to the population of more that 20 lakh. It is inexplicable why BMC struggles to supply water to a target population of 10 to 11 lakh.

BMC has adequate resources to supply more than 65 millions Gallons per day (MGD) of water in case there is sufficient water stored in the city reservoirs. The BMC has capacity of supplying 34 MGD of water from Kolar filtration Plant if the pumping is carried out in full capacity, however it has been pumping about 30 MGD from there. But these are just claims; there is no meter installed at kolar to measure the water supply. The water supply of 30 MGD is enough to more than 11 lakh citizens if estimated at 140 litres per capita per day.[39]

Similarly the Upper Lake contributes 26 MGD water. As per the standard supply this is sufficient for 8.5 lakh people. But the supply from the Upper Lake is actually quite lesser than this. Besides the BMC also has other resources to carry out of water supply of 5 MGD from the groundwater resources. This quantity is adequate for 1.60 lakh citizens. But the BMC can supply only 2 MGD from this sources during summer.

What is even more distressing is the fact that despite knowing the problems fully well BMC is unable to rectify them.

The bulk of the water is lost leading to crisis all around the city, except of a few privileged pockets where high and mighty reside. The undersize pipelines are further increasing the problems in many areas in most of the walled city and some of the new city areas as well, the pipelines are not laid in accordance with the need of the area.

This is one of the main reasons for poor water supply in some areas of old city as the undersize pipelines are laid in the narrow by lanes.

On the other hand, population is dense. The problem is exacerbated by the lack of storage tanks in many areas. Most of the storage tanks are under sized compared with the requirement. According to an estimate, there should be an overhand tanks of three lakh gallons to cater to the need. However there are only a dozen overhead tanks having three lakh gallons of capacity remaining storage tanks are having the capacity between 25000 gallons and 2 lakh gallons.

Uneven distribution has further increased the water crisis. In some areas people are getting water for as long as 20-22 hours a day while many areas don't get water for days together. In Jahangirabad and some adjoining areas most of the residents have managed to get water supply connections from the main pipeline, getting more than 20 hours water supply. Many household in Char Imli, Shivaji Nagar, Arera Colony, Shahpura and some other areas are getting more than 250 lpcd, even though they pay equally for the supply. The residents in the outskirts including Bairagarh, Gandhi Nagar, Tila Jamalpura, Indrapuri and other areas are facing water crisis.

(iii) Narmada Not Needed for Bhopal Water Woes:

Water supply from Narmada always becomes a topic of heated arguments, whenever the issue of scarcity comes up. The politics on Narmada water intensified during worst ever water crisis a couple of years back when 70 percent of the Upper Lake had dired up. However, how viable or desirable is Narmada Scheme for Bhopal is still debatable. Going by the facts, as mentioned above what comes as a surpise is the fact

[39] Dubey, Anil 2005 a "Enough Water for 20 Lakh Citizens But Crisis Still", 8 June 2005, Hindustan Times, Bhopal.

that at present, there is no need to supply water from Narmada.

The feasibility of Narmada Scheme is being questioned due to higher annual maintenance cost of Rs. 46 crores, which would go upto Rs. 60 crores by the time the scheme is implemented. Discontinuance of the implementation of the Kolar-II is also being called into question, as an amount of Rs. 25 crores already spent on this scheme.[40]

It is being claimed that the scheme would be completed during next three years and bring about 40 MGD water. After implementation of the Narmada Project Bhopal will have to spend an amount of Rs. 85.90 crore on water supply. This seems quite difficult as the entire revenue collection of the BMC is about 38 crore per annum. The BMC is spending about Rs. 40-42 crore on the present water supply system.

According to some experts, dependence on Upper Lake should be reduced as the status of the lake has been changing with increasing activities around it. Tourism activities are being increased around the lake. In order to reduce dependence on the Upper Lake the size of the Narmada Project will have to be increased. Several residential areas have also come up in the catchment area of the Upper Lake. Moreover, the BMC would pump out more water from the lake at Bairagrarh after implementation of Bairagarh Augmentation Scheme. So, the Upper Lake might go dry soon in case of delayed rains.

(iv) Areas Facing the Water Crisis Despite Having BMC Supply

Indrapuri
Sonagiri
Ratanagiri
Subhash Nagar
Acharya Narendra Dev Nagar
Punjabi Bagh, Saifi Nagar
Subhash Colony
Ashok Garden
Bagh Umrao Dulha
Bagh Dilkusha

Other areas facing the water crisis

Rajendra Nagar
Station Bazaria
Garam Gaddha Road
Patel Nagar Colony
Chhavni Road
Itwara
Mangalwara
Ghoda Nakhas
Kabadkhana
Ibrahimganj
Chhola Dharmakanta
J P Nagar
PGBT College area
Gautam Nagar
Narial Kheda
Police Colony
Prince Colony
Niyamatpura
Idgah Hills
Tila Jamalpura
Barela Gaon
Ramanand Nagar
Koh-e-Fiza
Saeed Nagar
Sajida Nagar
Hamidia Hospital
Saket Nagar
Shakti Nagar

Status of water sources (other than reservoirs and Upper Lake) in Bhopal[41]

No. of Handpumps	1295
No. of Tubewells	510
BMC owned tankers	35
Private tankers	23
BMC's wells and baoris	42

[40] Ibid, as reported in 39

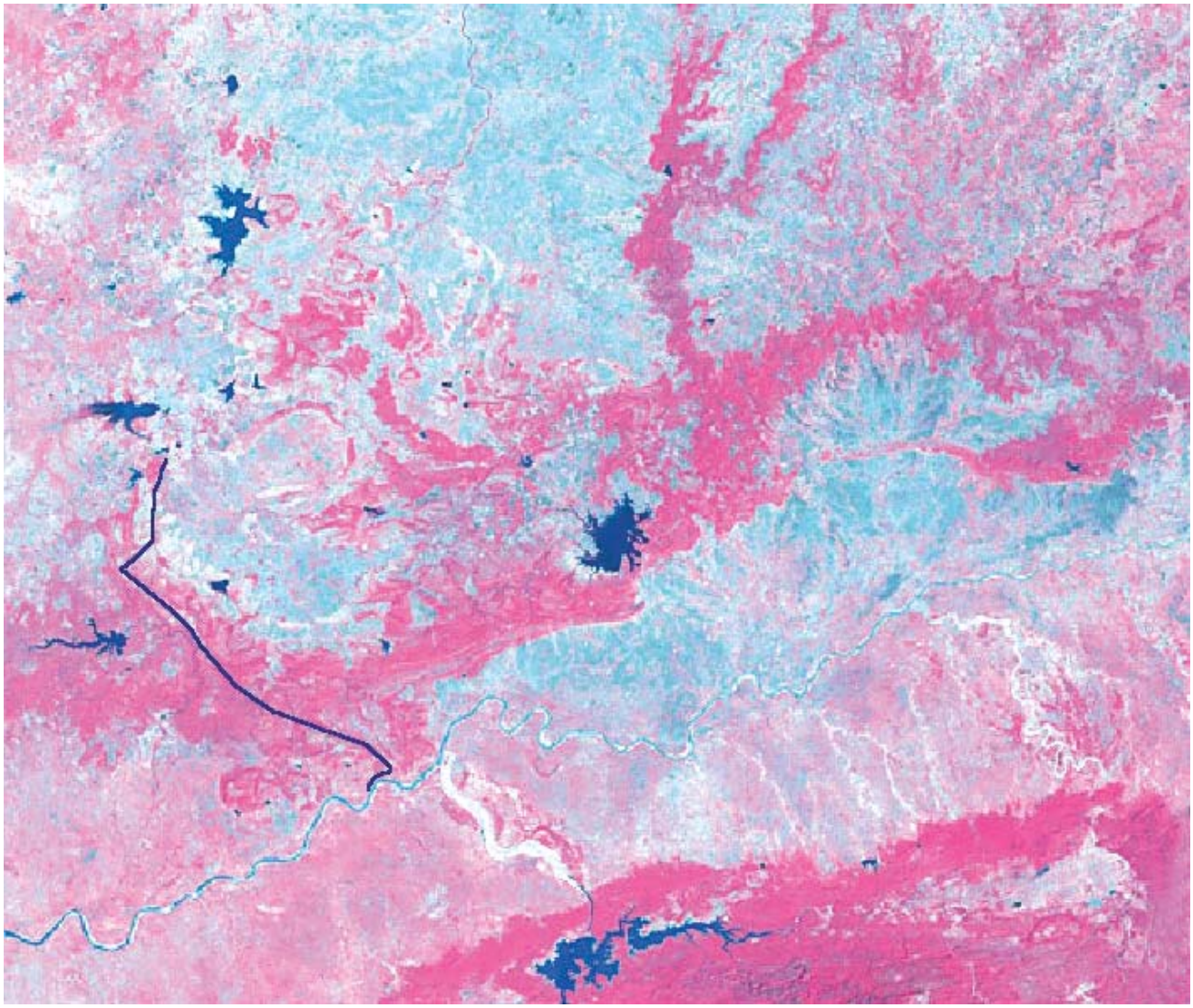
[41] Ibid, as reported in 39

Facts[42]

- Cost of pumping the Narmada Water would be at Rs. 46 crore per year. The cost is likely to go up to Rs. 60 crore by the time of completion of this scheme.
- Narmada scheme is to be completed by 2007 and would cater the need of projected population of more than 2 million.
- The BMC will have to return the loan at a cost of Rs. 26.66 crore per year.
- The BMC will not be able to meet the expenses of Narmada even after the water tax hike to Rs. 150 per month.
- Kolar-II is being scrapped even after spendig Rs. 25 crore including the interest on the loan.
- The age of present Kolar pipeline would be completed during next decade.
- Experts believe that dependence on the Upper Lake should be reduced, if possible.

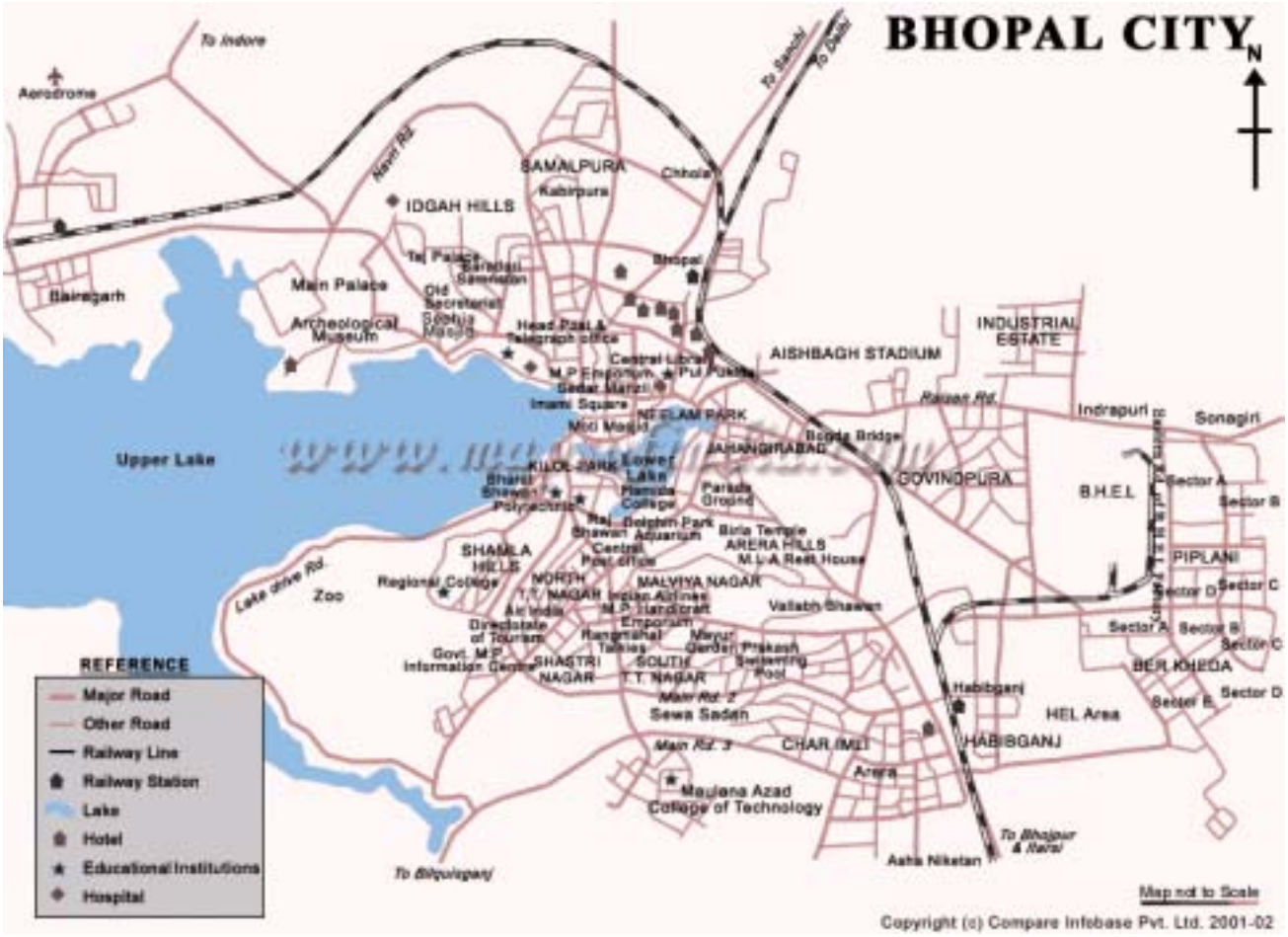
[42] Dubey, Anil 2005 b "Narmada To Burn Deeper Hole in Citizens Pocket, 10 June 2005, Hindustan Times, Bhopal.

Bhopal
Narmada Water Supply Layout



नर्मदा जलप्रदाय योजना ले-आऊट प्लान

Source: PHED, Bhopal



Source: www.mapsofindia.com

Small Children in Indrapuri in Bhopal filling water

A Girl filling a drum from a leaking pipe in Bhopal

A Girl Child filling the buckets from leaking pipe in Bhopal

6c. Water Crisis in Indore

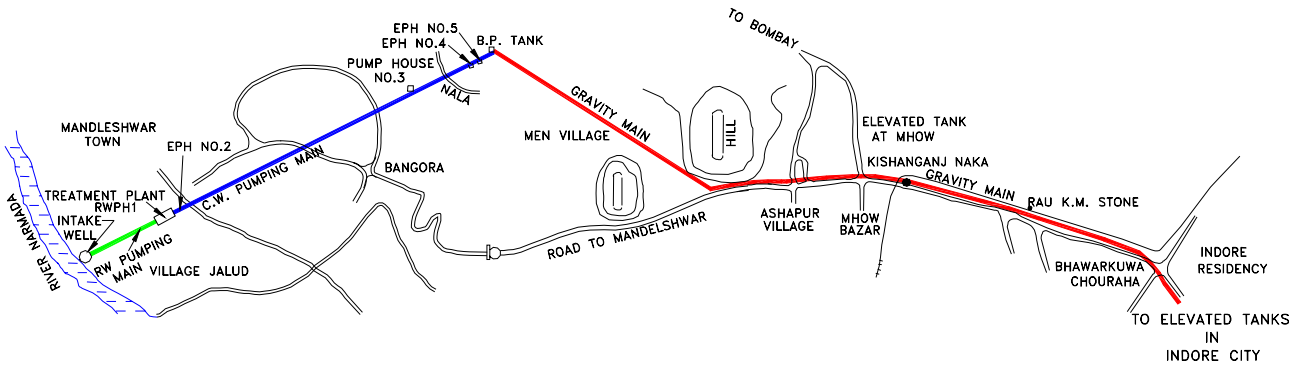
The existing water resource in and around Indore has witnessed depletion since last ten years. Urban sprawl and consequent surface sealing and planning negligence has resulted in storms, waterlogging and temporary flooding followed by rapid runoff. The urban surface and the surroundings no longer recharges water. This faulty planning has started manifesting itself in a huge water crisis.

Systematic water supply from Sirpur Tank was established in Indore, as early as in 1878 during Holkar's reign. Year 1881 onwards, Bilaoli Lake was utilised for water supply. Since 1895, River Gambhir began supplying water for Indore using a pipeline. After independence Yashwantsagar dam was constructed which supplied a major part of drinking water to the city. In the year 1978, the Narmada water supply Project-Phase I began in which water was brought to the city from 75 Kms away and 418m. lower in elevation. The water is brought after initial lifting and later by gravity through a pipeline. In 1992, the Phase II of the Narmada water supply project was commissioned. About 75.69% of the population is being served by piped water supply at present.

Indore has been selected as one of the first cities for the UN-HABITAT's new Water for Asian Cities programme. The main city of Madhya Pradesh state, Indore has a population of 1.6 million with a high annual growth rate of 4.6 percent. But it is located in a region where water is scarce.

The city of Indore is supposed to be the largest city of Madhya Pradesh having an anticipated

Women filling water from water tanker on the busy road in Indore



population of about 1.8 millions. The city also termed as commercial capital of the state with lot of industries and also supports surrounding industrial areas of Pithampur and Dewas. Presently two phases of Narmada Water Supply Scheme are working and the third phase is going to start with the loan from ADB.

The total Municipal Water Supply from the various sources amounts to be 180 Million lit/day which is quite less in comparison to a computed requirement of nearly 270 Million lit/day. Moreover, floating population in the city which also is considerable has not been taken into account as regards the water supply sufficiency is concerned. Presently there is a trend to dig tube wells deeper than before so that one gets enough water. However, in most of the cases it proves to be a mirage and these tube wells are running dry due to uncertainty of the strata and the excessive digging in the surroundings. These tube wells are dug privately or by Indore Municipal Corporation (IMC). In summer season the problem of water becomes severe, when people have to rely on the water supply from the truck-mounted tankers. In summer the Indore Water Supply also has to take a burden of supplying water to Dewas Town from the limited available resource.

When the summer is all its peak, the city reels under acute water shortage. The queue at public stand posts and water tanks grow longer. Most of the city's 3000 bore wells are drying up. During June 2005 IMC could not fill its 28 over head tanks to full capacity with water (common men call it as Narmada water). The frequent voltage fluctuation makes it hard to pump up the Narmada water and supply it in required quantity to the over head tanks.

In Indore water crisis, which is worsening day by day, has provided sleepless nights to the residents in different areas of the city, as they have to wait for the water tankers through out the night. The water crisis has badly affected the daily life of the people.

The water crisis has made the people so desperate that they are indulging in scuffle. A number of people have also lost their lives, while competing in the queue for fetching water. The ferrying of water tankers in city by IMC late in night between 1 am to 3 am forcing people to be awake. Meanwhile, water being supplied to the residents through the tankers is not enough to fulfill their requirements.

The delay in the arrival of monsoon doubles the water crisis. The people in some areas can be seen roaming here and there with canes to collect water. Water crisis also force people to change their daily routine. A large number of tankers of IMC have been pressed to distribute water in city. As the requirement is so high, water distribution through tankers has been proved good for nothing.

The ground water level has gone down considerably and there is no indication of underground water in and around Indore. Public Health Engineering (PHE) and IMC had dug large number of tubewells during 1965-66 but met with little success. No tubewell yielded more then 6000 gallons per hour (gph) of water.

People in Pipalyakumar Village, which is with in the limits of IMC, collects water for domestic needs and other purpose from 4-5 km distance. Water from handpumps and tubewells is not fit even for bathing.

“There are atleast 80 tubewells and five handpumps. The water from tubewells is saline and causes irritation and rashes on the skin. Out of the five handpumps, two are out of use and the water from rest is black” says one resident. He adds, “In such a scenario, villagers have to depend on the tankers arranged by village Panchayat, which how-

ever is not sufficient. For the domestic needs, people purchase water, or go to Niranjanpuri or Mayakhedi and bring water on bullock cart or tractors."

People have complained to officials which however turned futile. Every day large amount of time is spent just to bring water. It is a constant problem for women. A polluted drain passes near the village which also pollutes the water of tubewells and handpumps.

In Pipalyakumar nine peacocks died on 13th June 2005 after drinking water from the drain.

While most localities, including the posh ones, are reeling under the shortage, it is the new colonies along Ring Road and those coming under the Gram Panchayats that are the hardest hit. Since, Narmada water is supplied on alternate days, the civic body has hired 192 private water tankers to provide water in the City. The private tankers are in addition to 24 IMC owned tankers that pressed into service.

In the areas like Vinobhapuri and Moosa Khedi, many of the house owners who have installed tubewells allow poor people to take water but some of them are not so generous. They charge some amount. In Pradeshipura due to low pressure, water supply is problematic. In the lanes where water supply is poor, residents walk to other lanes to fetch water in this process they have to bear taunts daily.

The city witnessed unprecedented population growth every time its water bodies were augmented. The old township depended for its water on Pipaliyapala, Sirpur, Limbodi and Bilawali tanks and a number of open wells. The gravity flow of two million gallons of water per day MGD continued from these tanks till about 1989. The Residency area had a separate system of water supply of three lakhs gallons a day from an open well in Khan River and a tube well constructed in later years.

In 1961, the population of the town increased to 3.95 lakh requiring water supply of 10 MGD. Since the existing reservoirs could not yield this requirement. A search began for alternative sources.

The problem is such that the city is able to provide its residents with roughly half of the water usually provided in India of 67 litres per capita per day, as against the norm of 135 litres per day. 32 per cent of its residents do not have access to piped water, forcing the poorest of all to depend on hand pumps or water vendors for supplies.

The city depends for 80 per cent of its water on Narmada River, some 70 kilometres away. The distribution network is ageing and suffering from low maintenance and a lack of investment. Unaccounted-for water constitutes 52 per cent of the total water production.

Role of World Bank and ADB

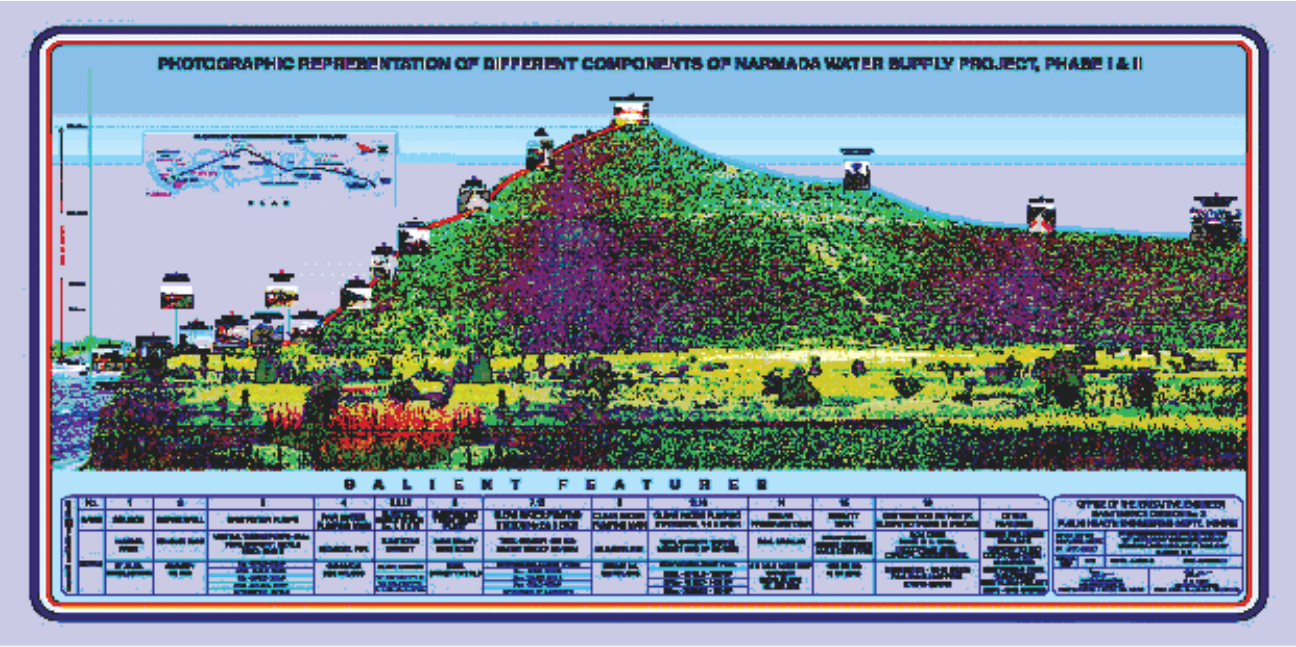
World Bank and ADB are present in Indore's water sector for its restructuring after creating the crisis of mounting loan burden. A new series of loan has begun and the pre-conditions as in other cases seeks to maximise the existing water supply system through water demand management measures, private sector participation and new water metering system for effective cost recovery. The agencies not only provide exorbitant loans but also suggests ways to pay it back routing it through the citizens, rich and poor. It is also intended to improve municipal solid waste management through improved collection, and safe treatment and disposal.

The Indore investments are estimated at US$ 130 million. They will be part of a larger ADB loan under the Integrated Urban Development Madhya Pradesh (IUDMP) project. The investment component of the programme, which is led by ADB, will be complemented by a capacity building, awareness and education component led by UN-HABITAT. Canadian International Development Agency will also support an initiative on urban governance.

ADB project proposes to double the amount transported from the Narmada River to Indore. Water Demand Management interventions is an essential component of the ADB project., along with so called water quality management, communication and participatory development, institutional development and capacity building.

The project aims at tackling the problems of leakage losses by revamping the tariff structure, awareness creation, water education, demonstration projects of various aspects of WDM, capacity building and documentation of good practices.

Ultimately, all these components can be brought together in a system of Integrated Water Resources Management, which allows the urban water supply management to make well-founded decisions on allocation of water and management resources.



The projects states the role of Water Conservation and Demand Management measures for reduction of water losses and efficient water utilization in all spheres of water sector is becoming increasingly important.

(i) ADB Loan to Indore Municipal Corporation.

ADB has sanctioned Rs. 497 crores to Indore for Water Supply and other programmes, as given below in Table 6c (i), Table 6c (ii) gives the percentage contribution of ADB State and IMC.

Table 6c (i)
Breakup of the ADB Loan

(in crores)

1.	Water Supply	406.85
2.	Sewage and Sanitation	90.32
3.	Solid Waste Management	
4.	Poverty Alleviation and other activities	
	Total	**497.17 crores**

Table 6c (ii)
Narmada Water Supply Scheme, Indore Proposed Third Phase Financial Arrangement for the Scheme

	Agency	Percentage
1.	Loan from ADB	67.0
2.	Grant from State Government	17.00
3.	Contribution of the Municipal Corporation	16.00
	Total	**100.00 Percent**

(ii) Water Sources in Indore

Table 6c (iii) shows the water sources in Indore. Table 6c (iv) gives the water supply purposed in Narmada Phase-III. First phase of Narmada was commissioned in 1978. Contrary, to expectation, the population figure touched nine-lakh in 1981, which was anticipated for 1991. as a result, Narmada phase II was proposed, which was completed in 1990.

Table 6c (iii)
Water Sources in Indore (MLD)[43]

	Installed Capacity	Normal	Summer
Narmada Poject	180	140	140
Yashwant Sagar	38	18	09
Bilawali tank	09	09	09
Tubwells and other sources	27	27	27
Total	**254**	**194**	**171**

[43] Shastri, Padma 2005 b, "Narmada for Now, But Not Forever", 28 May 2005, Hindustan Times, Indore.

Table 6c (iv)
Daily water supply proposed in Narmada phase III for design period of 2021

Villages on route :	1.39%	(5 MLD)
Dewas :	8.33%	(30 MLD)
Mhow :	6.94%	(25 MLD)
Small Industries :	5.56%	(20 MLD)
Large Industries :	5%	(18 MLD)
Indore City :	72.78%	(262 MLD)

Note : This will be in addition to the current water supply.

Table 6c (v)
Basic Information Narmada Water Scheme, Indore Proposed Third Phase To be implemented by ADB Loan

1.	Capacity	360 M.L.D.
2.	Base Year for the Scheme	2021
	Estimated Population in 2021	28.00 lakh
3.	Water Tariff	--
4.	Water Supply Without Leakage	135 L.P.C.D.
5.	Water Supply including Leakage	150 L.P.C.D.

The augmentation of other water resources has been deemed to be impractical and expensive especially when IMChas to pay back loan of Rs. 497 crore to ADB which has financed Narmada phase III project. Besides the augmentation of Yashwant Sagar at a cost of Rs. 25.50 crore ADB loan has been proposed along with phase III. The augmentation project, which has been approved recently aims to restore the reservoir's original water supply capacity of 38 million liters per day.

Table 6(v) gives the basic information about Narmada scheme in Third Phase.

(iii) Present Water Tariff and Charges Proposed Under Narmada Phase III

Table 6c (vi) gives the present available water tariff and table 6c (vii) gives the water charges purposed under Narmad Phase III. Table 6(viii) shows the recommended water supply for institutes in Narmada Phase-III.

Apart from Narmada there are five rivers flowing around Indore. But harnessing them

Table 6c (vi)
Present applicable water supply tariff [44]

Category	**Flat Tariff**
Domestic	**Rs. Per month**
Unmetered	
½ inch	60
¾ inch - 1inch	120-140
Above 1 inch	480-7680
Commercial	
½ inch	60
¾ inch - 1inch	300-700
Above 1 inch	1200-19200
Industrial	
½ inch	300
¾ inch	600-1200
Above 1 inch	240-38400
	(Figures in Rs. per month)
BULK USERS	
UNMETERED	1800-4824
METERED	
Domestic	10.0
Commercial	10.5-11
Industrial	22.0
	(Rs. in Kilolitres)

Table 6c (vii) Water charges proposed Under Narmada phase III

Connection	Rs/month
Unmetered	150
Metered	As per meter reading
Domestic Users	**Rs. M³**
First 10 M3	6.0
Next 10 M3	9.0
In excess of 20 M3	12.0
Non-domestic users	
Commercial	12.0
Industrial	18.0
Bulk Supplies	11.0
Stand post users	60% (of lifeline tariff effective from 2009)
Capital recovery fees	Rs. 30 / month
Application fees	Rs. 500 (One month)

Note : all unmetered connections will be metered by 2009 thereafter the fix monthly charges will discontinue.

[44] Ibid, as reported in 43

Table 6c (viii)
Recommended Water Supply for institutions under Phase III of Narmada

Institutions	Water Supply
Hospital	340 litres/bed/day
Hotel	180 litres/bed/day
Restaurants	70 litres/seat/day
Railway station	70 litres/head/day
Bus Stand	70 litres/head/day
School	45 litres/head/day
Offices	45 litres/head/day
Factories	45 litres/head/day
Cinema	15 litres/head/day

would be expensive and devastating. Chambal originates 27 miles away from Janapay hill, and flows south to north to the west of Indore. A PHED report states that construction of any earthen storage on Chambal would submerge cultivable land in the region. Kalisindh which is 40 miles away also flows south to north. Kshipra, which is 12 miles away flows form south east to north east of Indore but is a source for water supply to Ujjain and Dewas. The Khan River flows through the city from south to north and meets Kshipra in Ujjain. It is small and polluted.

According IMC and Central Ground Water Board (CGWB), while there are around 1,000 Rain Water Harvesting (RWH) structures in Delhi, their number in Indore is about 3,000. Yet the latter's groundwater level has dipped by 4 metres in the past 20 years. Consequently, several borewells are rendered redundant every year. Though efforts to promote RWH began in 1999, the city did not have a good monsoon until 2003 also lead to increased exploitation of surface and groundwater.

The quality of groundwater has been deteriorating as well. Laboratory tests conducted at the Indore-based Choithram Hospital & Research Centre shows that water from 75 per cent borewells contains high amounts of faecal contamination.

The IMC used RWH as its main tool to fight depleting groundwater levels. It constituted a separate department for water harvesting and recharging. While notifications were being issued in other parts of the country for making RWH mandatory, the IMC went ahead and introduced incentives for doing so. It conducted household surveys too, to verify implementation. In addition, an information centre was opened to divulge data on the technical aspects of RWH. "Water harvesting systems were set up at a cost of Rs. 181 lakhs. Innovative techniques methods were adopted, out of the 30000 borewells in Indore, 20000 are equipped with RWH systems. But the gains were marginal.

Gazette notification published by the government makes it mandatory for builders raising construction on plot area of more than 250 square metres to adopt rainwater harvesting method. The government offers six per cent rebate on property tax to those who install the system while IMC offers incentive of Rs 1000 for setting up the same. IMC has also made it mandatory to issue work completion certificate to the builder only when he installs the rainwater harvesting set up. Table 6c (vix) gives the percentage of borewells with problem. In Table 6c (x) the areas with inadequate water supply are shown.

Table 6c (ix)
Deepening Crisis; More Dry Borewells Each Year[45]

Year	Percentage of Borewells with pumping problems
1988	0.5
1989	1.7
1990	2.12
1991	3.40
1992	3.83
1993	4.68
1994	12.76
1995	24.25
1996	27.53
1997	32.5
1998	40.1

[45] Srinivasan, R.K. 2004, "Tunnel Vision; Indore Banks Solely on Rainwater Harvesting, Lands in a Hole", Down to Earth, 31 July 2004, New Delhi.

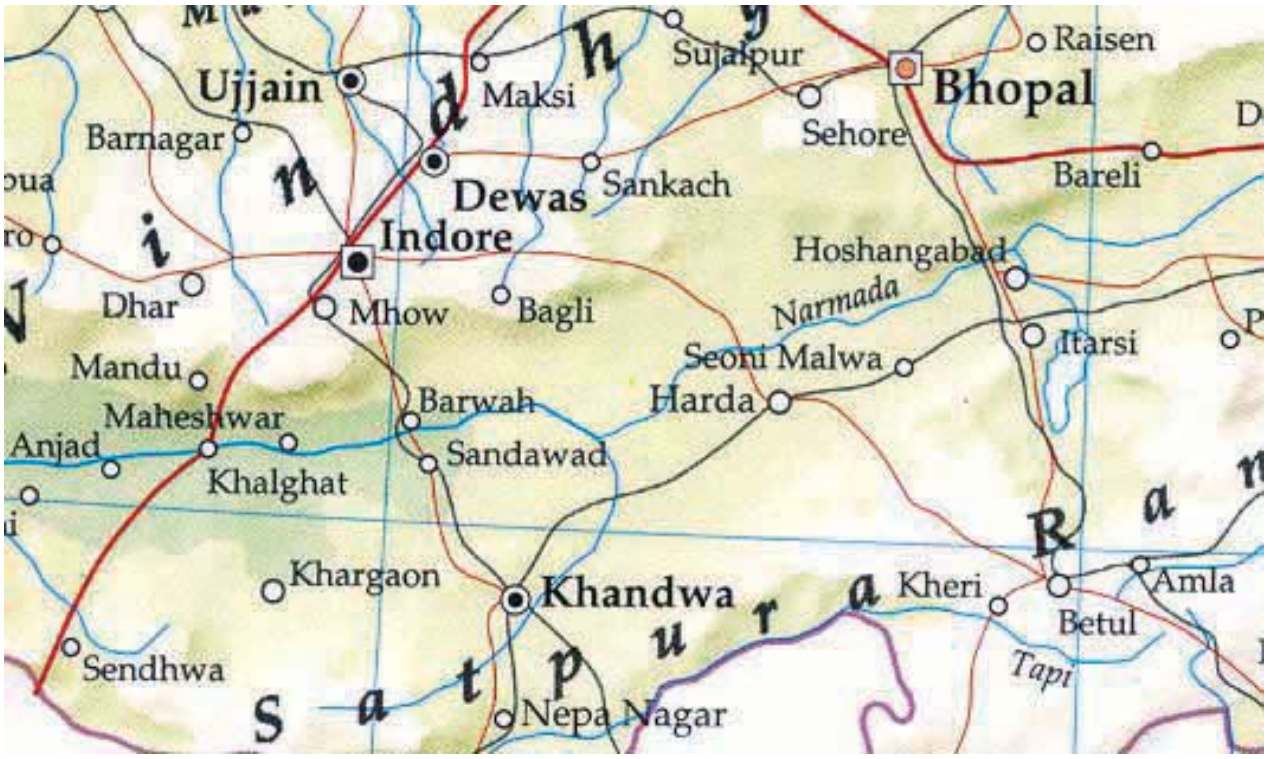
Table 6c (x)
(iv) Areas Facing Water Crisis in Indore[46]

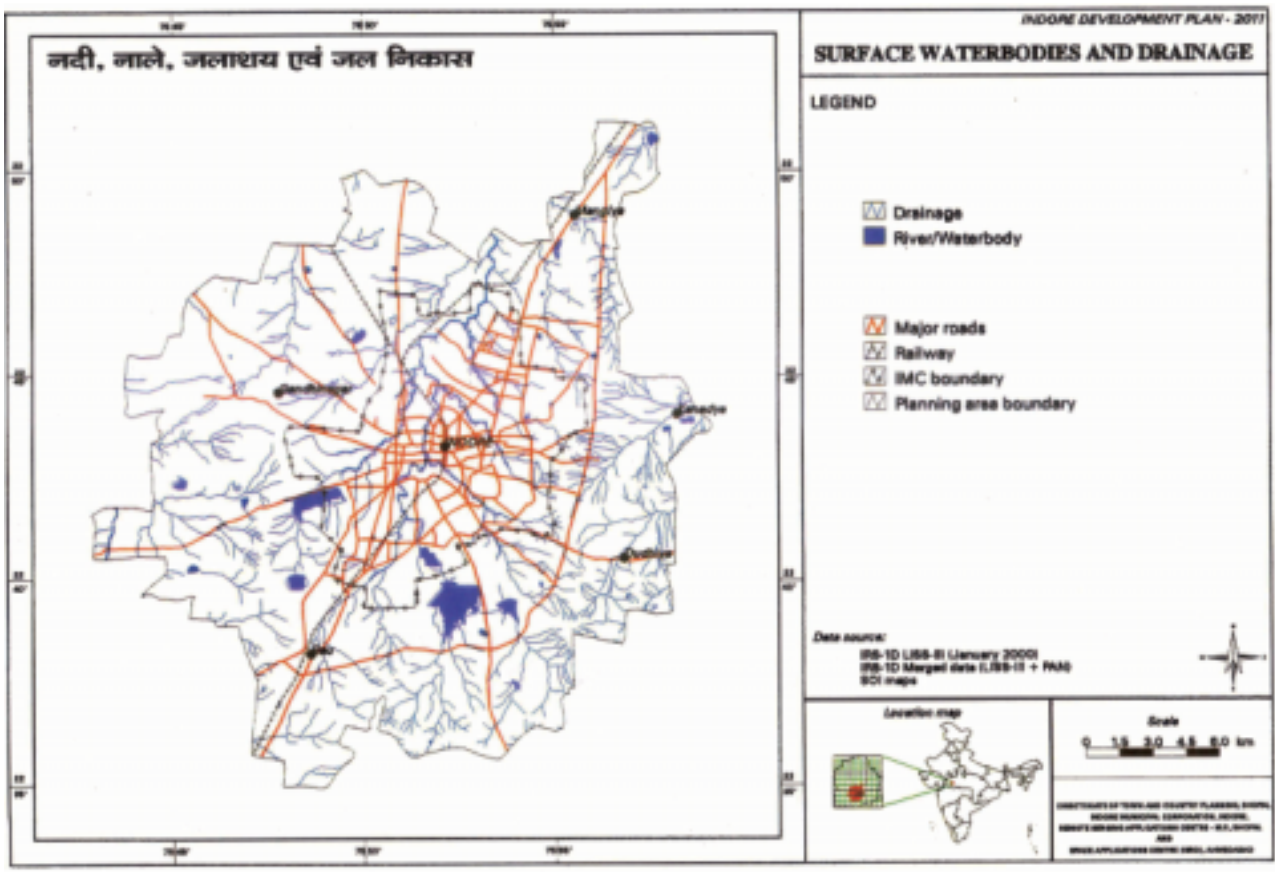
Ward. No.	Name of Ward	Population 1991	Area in Hectar	Source	Status of Supply
1	2	3	4	5	6
1	Sirpur	14601	300.98	Narmada	Inadequate
2	Hukumchand	14132	97.46	Narmada	Inadequate
3	Shishak Nagar	13411	501.63	Gambhir	Adequate
4	Laxmibai Nagar	15070	154.97	Gambhir	Adequate
5	Maharana Pratap Nagar	18419	303.84	Gambhir	Adequate
6	Banganga	17985	74.53	Gambhir + T.W.	Adequate
7	Bhagat Singh	18005	949.38	Gambhir + T.W.	Inadequate
8	Niranjan Nagar	18385	934.95	Narmada + T.W.	Inadequate
9	Kharajana	18378	1126.53	Narmada	Inadequate
10	Vijay Nagar	13866	162.24	Narmada	Inadequate
11	I.T.I.	13775	118.09	Narmada	Inadequate
12	Bhamori	15155	147.91	Narmada	Inadequate
13	Nanda Nagar	147.06	58.47	Narmada	Inadequate
14	Subhash Nagar	16522	52.74	Narmada	Inadequate
15	Pardeshipura	14209	32.11	Narmada	Adequate
16	Sheelnath Camp	15064	100.90	Narmada	Inadequate
17	Bhagirathpura	18399	230.46	Narmada + T.W.	Inadequate
18	Sadar Bazar	16992	50.45	Gambhir	Adequate
19	Juna Risala	14633	81.41	Gambhir	Inadequate
20	Dravid Nagar	17417	68.80	Gambhir	Inadequate
21	Panchkuiya	15054	68.23	Gambhir	Inadequate
22	Priya Darshini	15825	202.95	Narmada + Gambhir	Inadequate
23	Devi Indira Nagar	17209	74.53	Narmada + Gambhir	Inadequate
24	Malharganj	13823	23.50	Narmada + Gambhir	Inadequate
25	Chhipa Bakhal	17722	30.96	Narmada + Gambhir	Adequate
26	Imli Bazar	15065	33.82	Narmada + Gambhir	Inadequate
27	Rajbada	16525	93.44	Narmada + Gambhir	Inadequate
28	Devi Ahilya Nagar	14238	98.60	Narmada + Gambhir	Inadequate
29	M.G. Marg	15188	120.97	Narmada + Gambhir	Inadequate
30	Shivaji Nagar	14425	60.91	Narmada	Inadequate
31	Rustam Ka Bagicha	14782	42.27	Narmada	Adequate
32	Ramsingh Bhai	14002	43.57	Narmada	Inadequate

[46] Srivastava, R.K. and D. M. Narulkar 2002, "Water Supply to Indore Metropolitan Region", in Water Resources and its Impact on Environment of Malwa Region, "Centre for Environmental Protection, Research and Development (CEPRD)" Indore.

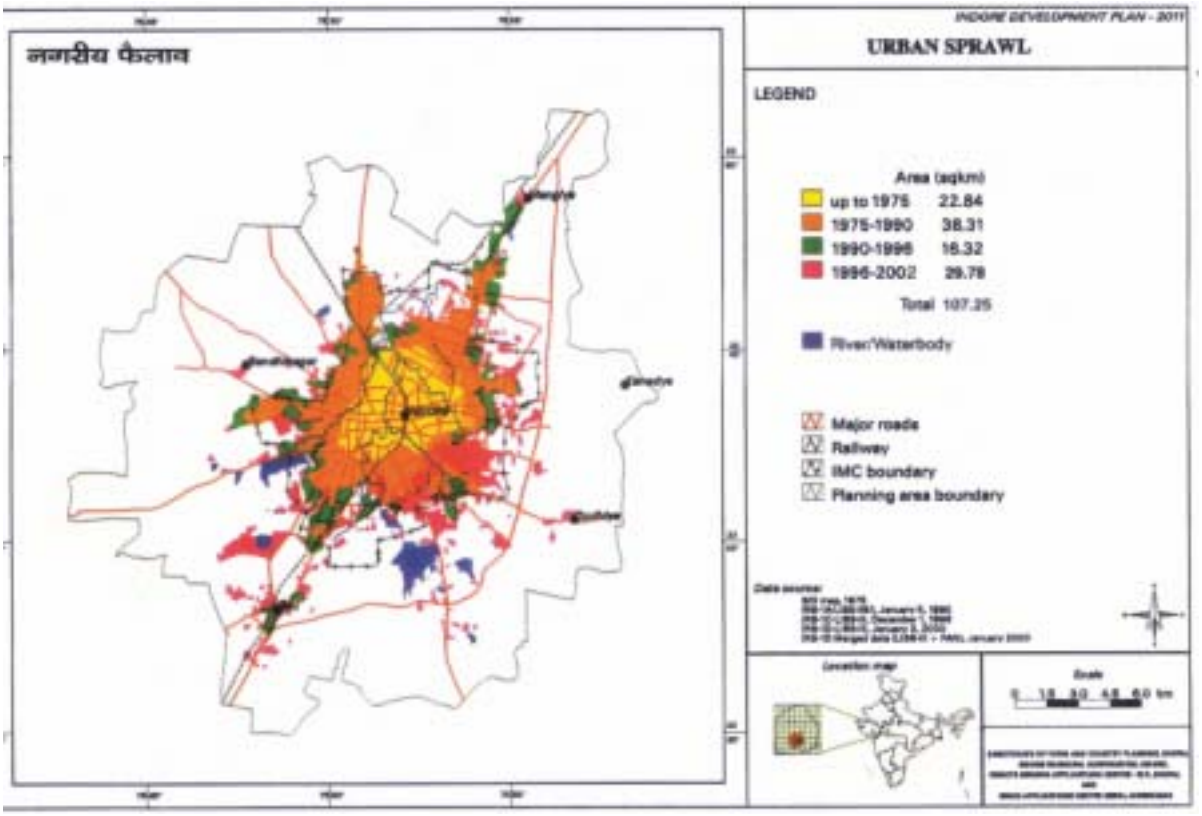
Ward. No.	Name of Ward	Population 1991	Area in Hectar	Source	Status of Supply
1	2	3	4	5	6
33	Patnipura	14215	34.97	Narmada	Inadequate
34	L.I.G.	14700	108.35	Narmada + T.W.	Inadequate
35	Jagjivan Ram	14231	154.22	Narmada + T.W.	Inadequate
36	Vivekanand	18009	342.83	Narmada + T.W.	Inadequate
37	Palasia	18366	147.34	Narmada	Inadequate
38	Nehru Nagar	14523	26.96	Narmada	Inadequate
39	Pancham Goma	18261	33.82	Narmada	Inadequate
40	Vallabhai Patel	15137	169.70	Narmada	Inadequate
41	South Tukoganj	18639	307.70	Narmada	Inadequate
42	Chhoti Gwaltoli	15009	102.05	Narmada	Inadequate
43	Daulatganj	14332	24.65	Narmada	Inadequate
44	South Toda	16867	28.09	Narmada	Inadequate
45	Jawahar Marg	15660	3.25	Narmada + Gambhir	Inadequate
46	Bada Sarafa	14367	35.54	Narmada + Gambhir	Adequate
47	Molana Azad	15758	25.22	Narmada + Gambhir	Inadequate
48	Vaidhya Khayaliram	15754	29.81	Narmada + Gambhir	Adequate
49	Macchi Bazar	14723	22.36	Narmada	Adequate
50	Kailash Nath Katju	15527	43.57	Narmada	Adequate
51	Laxman Singh Chouhan	16698	100.32	Narmada	Inadequate
52	Dwarkapuri	14506	515.97	Narmada	Inadequate
53	Sudama Nagar	14227	62.49	Narmada	Inadequate
54	Lal Bahadur Shashtri	14866	169.12	Narmada	Inadequate
55	Rajmohalla	15498	102.62	Narmada	Inadequate
56	Hemu Kalani	18395	76.25	Narmada	Inadequate
57	Harsidhi	15434	38.98	Narmada	Adequate
58	Marimata Bagicha	13996	27.51	Narmada	Adequate
59	Holkar Ward	18541	398.97	Narmada	Inadequate
60	Cutcutpura	14082	66.50	Narmada	Inadequate
61	Navlakha	18393	75.68	Narmada	Adequate
62	Tilak Nagar	18211	209.82	Narmada	Adequate
63	Tirupati	18440	479.85	Narmada	Adequate
64	Residency	18400	569.92	Narmada	Adequate
65	Azad Nagar	18377	127.84	Narmada	Adequate
66	Ambedkar Nagar	18300	130.71	Narmada	Adequate
67	Vishnupuri	17899	461.50	Narmada	Adequate
68	Bijalpur	14134	930.46	Narmada	Adequate
69	Dr. Rajendra Prasad	14307	366.34	Narmada	Adequate

Narmada Water Supply Layout

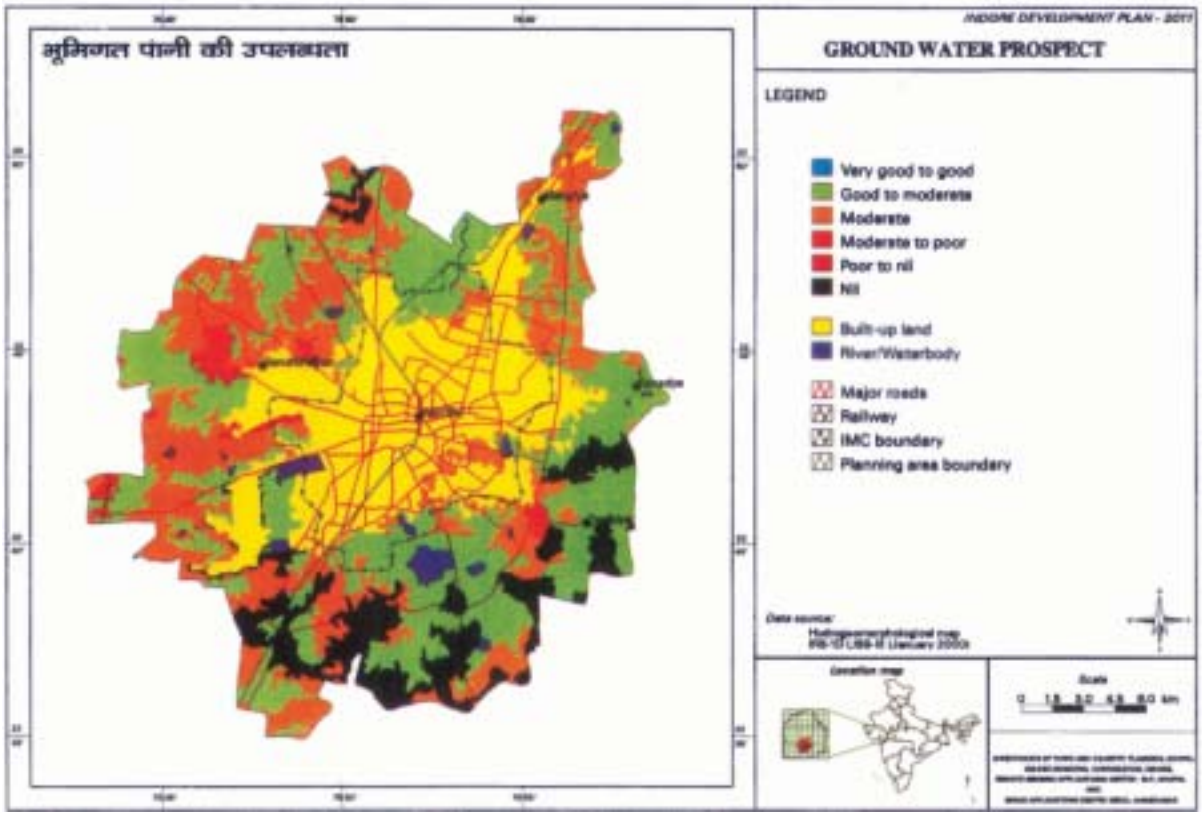




Source: Indore Development Plan 2011



Source: Indore Development Plan



Source: Indore Development Plan

6d India's First BOT-Water Supply Project for Dewas, MOU Signed

Dewas city, though needs about 50-60 lakh gallon per day but gets only half of this. The rest of the demand is met by tubewells. While the project to supply water from Kshipra river to Dewas costing Rs. 33 crores is pending, the government has extended all possible help to supply the water to the industries.

India's first ever water supply project on Built, Operate and Transfer (BOT) costing Rs. 80 crore will be launched in Dewas

The plant to supply 30 MLD shall be built at a cost of Rs. 80 crores. The water to the industries shall be supplied at Rs. 26 per kilo litre. Initially 44 industries have signed MOU which include Tata Consultancy, Rainbaxy, Kirloskar, Gajra Gears.

This unique project would ensure water supply from Narmada river to Dewas industrial area. MOU for the project was signed in the presence of Chief Minister Babulal Gaur on 16th June 2005. The Water Supply Project on BOT basis would be first-step in Dewas in respect of private sector participation in water supply sector. The MoU was signed by Ashok Khanna of the M/s MSK Projects (India) Limited, Baroda, which would implement the project, Ramesh Gangwal on behalf of the Association of Industries, Dewas and Raghav Chandra, Managing Director of Madhya Pradesh Small Industries Development Corporation on behalf of the State Government. The Dewas industrial area would start getting water in next two years. Under this project, water supply lines measuring 128 km would be laid from Nemawar.

6e Water Crisis in Some Other Towns of M.P.

Besides Dewas, other neighbouring towns of Indore are also affected by water crisis. Due to shortage of water, marriages have been delayed or postponed. Newly married ladies have left their in-laws house.

Half of the Khandwa population have to make desperate attempts to get even a bucket of water. There are two sources of water, Surta dam and Nagchun pond. During this summer Sukta dam was dried up and in Nagchun water was available only for few days. Padawa, Ghaspura, Dadajiward Sanjay ward, Sant Ravidas ward all were without water. The Municipal Corporation of Khandwa had pressed 100 tankers in the service. The cost of water in different cities as well as the periodicity of water is shown.

Cost of Water

Town	Cost per drum (Rs.)
Segar	25-30
Soyatkalan	20.0
Sarang	15.0
Jawra	10.0

Periodicity of Water

- **After 8 days,** Moori - Borgaon
- **After 6 days,** Dhar
- **After 3 days,** Jhabua, Shansgarh, Unhal
- **After 2 days,** Burhanpur, Jawra, Garith, Pilleyamandi

After 1 day, Ratlam, Seetamau, Mallhargarh, Khichrod Mahendrapur, Narayangarh.

7

Water Crisis in Chennai

(i) World Bank Loan to Chennai Water Supply

Chennai Water Supply Augumentation Projection-I (New Veeranam Project)

The objective was to draw 190 mld of raw water from Veeranam lake located in Cuddalore district and treat and convey 180 mld of treated water from a distance of above 230 km, for distribution to Chennai city. The estimated cost of the project was Rs. 720 crores. The project works had been divided into 5 packages. The date of the commencement of work was 25.11.02 and it was completed in June 2004. But the World Bank funded project was unable to provide the lake water to Chennai when it needed most.[47, 48]

Chennai Water Project - II

The Second Chennai Water Supply Project was taken up for implementation in Feb '1996 at a revised cost of Rs. 778.79 Crores with World Bank loan. The funding pattern for the project included 17.25% from the Board's internal generation and 17.25% from Government of Tamil Nadu as grant and the balance 65.50% was funded by World Bank. The original scheduled date of completion of the project was June 2002, but with extension from World Bank the project was closed by 31.03.04.[49]

The objective of the projects were.

1) Improvements to the sources of supply, distribution, conservation of water and
2) Expansion and rehabilitation of Sewer collection, conveyance treatment and disposal system.

Chennai Water Project – III

Metrowater has planned to seek further World Bank assistance as "Third Chennai Project" for about Rs. 600 Crores (or) US$ 125 Millions towards (1) systemic improvements in water supply in Chennai city, (2) provision of infrastructure facility to draw additional ground water from A.K. Basin; (3) extending Information system and technology planning (ISTP) to all areas; (4) Implementing Geographic Information system (GIS) in the entire operational area; (5) For under unaccounted water carrying out leak detection and rectification works in left out areas; (6) provision of Water supply infrastructure facilities in the AUAs and DUAs and (7) Construction of Sewage Treatment Plants in 7 Urban Local Bodies.[50]

World Bank Loan to TWAD

Tamil Nadu Water and Drainage Board (TWAD) has introduced a new programme called "Tamil Nadu Rural Water Supply and Sanitation Programme" (TNRWSSP), with a demand driven/cost sharing approach is proposed in the Rural Water Supply and Sanitation (RWSS) Sector in consonance with the 10th Five year plan objective.

The programme is to be implemented in partnership with Government of India and the World Bank with a State wide and Sector Wide Approach (S-SWAp), wherein the Govt. of Tamil Nadu will adopt a common policy and programme for the entire rural water supply and sanitation sector in Tamil Nadu.

[47] Chennai Metro Water 2004, "Chennai Metropolitan Water Supply and Sewerage Board", Annual Report, 2003-2004.

[48] Srinivasan, R.K. and Deepa Kozhissari, 2004, 'Emergency', Down to Earth, 31st December, Vol. 13, No. 15, New Delhi.

[49] Ibid ad reported in 47

[50] Policy Paper, Chennai Metro 2004

The programme is to be executed through a single integrated and decentralized service delivery system. The new programme will cover all the 29 districts of the State.

The programme envisages a 3 tier structure of State, district mission and Village water supply and sanitation committee. The Operation & Maintenance will also be looked after by the user Community with their own funds. To test the programme concepts, it is proposed to implement the programme on Pilot basis in about 5 Villages Panchayats in each district.

Discussions are on with the World Bank to implement this programme with the tentative size of Rs. 3000 crores over a five-year period starting from 2005-06.[51]

(ii) Drinking Water Supply in Chennai

Chennai and its suburbs – constituting the Chennai Metropolitan Area (CMA) are constantly plagued by water shortage. The city's water problems stem from the fact that the it is excessively dependent on the North-East monsoon for its water. The monsoon, which brings rain in erratic spells during October-December, is notoriously fickle. One bad year, depletes the city's three main reservoirs, and the ground-water after being augmented by the rain-water harvesting proposal enforced by the government, cannot sustain the teeming masses of the city and its suburbs. The ever-increasing population of Chennai and rapid urbanization has lead to the indiscriminate exploitation of water without much recharge. The failing rains and over extraction have forced the residents to pay more for their needs, without any real gains.

Chennai's primary water sources used to be a network of eris (tanks), ponds, temple tanks and dugwells managed by local communities. Typically, several households shared each well. In 1772, when it was under the control of the English East India Company, the 'first' public water supply works was set up. It was designed to supply 0.635 million litres per day (mld) from a cluster of 10 wells to Fort Saint George (now, the state secretariat in the city). Over the next 100 years, a large scheme was completed. This brought water from two eris- Cholavaram and Redhills – to municipal waterworks, distributing it across the city.

These two tanks met the growing city's demand till the early 1900s. between then and the 1940s, the city's population doubled to almost one million. To meet the growing demand, a reservoir was constructed at Poondi across the Koratallaiyar river. This raised the total surface storage capacity from 100 MCM to 180 MCM. Till the 1970s, the city's public water supply system depended exclusively on these three reservoirs, located 20-50 km to its northwest.[52]

In 1957-58, UNDP started drilling borewells in the area, the farmers realized the groundwater potential and started doing the same.

As the city continued to grow, water availability fell from a comfortable 140 litres per capita per day (LPCD) to a low 80 LPCD in 1971. The public system was under additional pressure to extend its distribution network to new areas being developed. This led to installation of public taps, borewells fitted with hand pumps and large tanks to store municipal water. In 1976 the Telugu Ganga project to bring water from Krishna 170 km north of the city was drawn up. But work proceeded at a snail's pace: the first phase of the project was commissioned in 1996. However, the scheme has failed to live up to its promise.

In the 1970s, Chennai's water search turned southwards, beyond Pondicherry, to the Veeranam lake 235 km away. Work began on the Veeranam project, which envisaged a pipeline from the lake. But the project had to be shelved in 1975. In 1995 government again took up the project at a budgeted cost of Rs. 464 crore.[53]

The Government in 1996 dropped the Veeranam project after the World Bank raised objections and refused to fund it. In 2001, government relaunched it in February 2003 as the New Veeranam Project. It was completed in June 2004, when the lake was dry (it remains dry from February to July every year). The lake is supposed to get water from the Cauvery river, but the long standing dispute with Karnataka

[51] TWAD 2005, "Brief Report, Tamil Nadu Water Supply and Drainage Board" (TWAD), 2004-2005.

[52] Ibid, as reported in 48

[52] Ibid, as reported in 48

has ensured this doesn't happen. To feed the pipeline, borewells were sunk in a 25 km stretch, causing the water table to plummet and the farmers to agitate.

Over the years, groundwater has become the major source of water. But the city's falling water table impelled exploitation of distant aquifers, adding to the costs. In 2004, Metro Water supplied water to the city through tankers for about six months at a cost of Rs. 1 crore per day. On an average, Metro Water gets 70 MLD of water through 1,700 tankers from neighbouring villages. The Board buys this water from farmers after obtaining an acceptance letter from them. The State Government also drew up a Rs. 145 crore relief plan for additional borewells near the three major storage reservoirs. But this level of groundwater mining will last, at best, a few years.

The rivers that flow through Chennai basins are not perennial. Tanks and reservoirs can supply only limited supply of water. So where does India's forth largest mega city gets its water from.

- 80% of Chennai water needs are met through ground water.
- In the early 1970s, public water supply depended exclusively on surface water sources (reservoir). People living in the municipal corporation area depended on private service wells and numerous temple and irrigation tanks.
- But as the city grew, water supply scenario began to change. Waves of settlements over ran tanks and destroyed the catchments area of the temple tanks. More service well came up and people also began to sink borewells.
- The water table began to fall. The gap between ground water extraction and recharge began to widen. A serious water crisis began to engulf the mega city by the late 1970s, reaching the drought proportion in years of less rain fall (for instance 1992 and 1993). This crisis continues even today.
- As a part of its research on fluctuating ground water level in Tamil Nadu, the PWD chose 4 open wells in Adyar, Perumbur, Vepery and Mandaveli (all within the city limits). The results clearly showed that water table was lowering in these areas.
- Chennai city is near the sea. As ground water level falls, the salty sea water begins to seep into aquifers. The water quality in the aquifers begins to deteriorate. The water that gets pumped up for use becomes brackish. You can not drink saline water. Saline water is of no use.
- A study by the Institute of Water Studies estimated that annual ground water recharge in the Chennai basin at 0.21 million cubic metres per sq. km. Applying this rate to the city area, the annual recharge works out to 350 MLD. This is less than the current rate of consumption.
- In other words, the water that seeps into the ground water does not in any way help to increase the water table. The same amount is pumped out of the ground water.

Drinking Water Supply in Chennai[54]

(i) Population served (2003-2004) - 6 million.

(ii) Water Supply through pipeline (on alternate days) = 600 million litres

(iii) Water Supply through tankers (on alternate days) - 60 million litres

(iv) Number of Tanker trips per day – 3500

(v) Total storage in reservoir - 2060 million cubic ft.

(vi) Number of Service connection (2003-2004) - 326094

Women waiting for water in Chennai

[54] Lakshmi, K. 2005a, "Water Supply Problem Continues", 21st April 2005, Hindu, Chennai.

Long Queue of Pots for Water in Chennai

(iii) Distribution of Household by Source

Distribution of Household by source and location of Drinking Water is given in the following Table 7 (i):

Water supply for domestic use in Chennai urban area has been a source of concern for decades and in recent years, the ability of the Metro Water Board to meet demand has fallen far short of available supply. The official supply situation is highlighted in Table 7 (ii).

Table 7 (ii) Indicates, water deliveries are approximately half the government norm for urban water supply requirements in the Chennai urban area and only a small fraction of the demand that would probably be present if supply were unrestricted and delivered at the highly subsidized rates found in other urban centers. Demand is also restricted because in water short years piped water supply does not reach significant portions of the city on a regular basis.

Table No. 7 (i)[55]

Sources and location of drinking water	Location	Total number of households
All Sources	Total Within premises Near premises Away	827,811 533,055 236,84 557,911
Tap	Total Within premises Near premises Away	372,807 299,951 62,619 10,237
Handpump	Total Within premises Near premises Away	273,721 151,171 107,509 15,041
Tubewell	Total Within premises Near premises Away	62,308 50,947 9,258 2,103
Well	Total Within premises Near premises Away	44,526 27,915 13,682 2,929
All Others	Total Within premises Near premises Away	74,449 3,0714 3,777 27,601

[55] Census of India 2001, "Census of India, Tables on Houses, Household Amenities and Assets", Vol. II, (District Chennai, Tamil Nadu)

Table 7 (ii)
Official Water Supply Conditions in Chennai[56]

YEAR	Pop.10[6]	WATER Req. (MLD) @158 LPCD	Demand (MLD) @460 LPCD[13]	ACTUAL SUPPLY (MLD) Domest + Ind.	Cost of supply to MWB per cubic meter (RS)	Supply as Pct. Baseline req.	Supply as a Percent of probable demand
1995	4.19	662	1927.4	300+65	8.8	45%	16%
1996	4.28	676	1968.8	295+65	8.23	44%	15%
1997	4.37	690	3015.3	345+68	9.3	50%	11%
1998	4.46	705	3144.3	381+48	10.2	54%	12%
1999	4.56	720	3283.2	413+37	15.11	57%	13%

(iv) Water Availability in Slums and Poor Colonies

To find the hardship of the citizens in Chennai, a brief survey was conducted in the following slums and poor colonies

1. Kukrupet
2. Thandyarpet
3. Chindagiripet
4. Pudupet
5. Vaisar padi
6. Mullai Nagar
7. Hari Naryan Puram
8. M. C. Road
9. Laxmi Narayan Puram
10. Lala Gunda
11. Perambur Barracks Road
12. Tirvatur
13. Bharat Garden
14. Vannarpet
15. Stalini Nagar
16. Radhaji Nagar
17. Nehru Nagar
18. Anna Nagar
19. E.H. Road

The households who have installed hand-pumps in their houses have to pay Rs. 150 per months (These hand-pumps are different than conventional hand-pumps. These are installed to pump water from the piped Metro Water Supply).

In some of the areas like Hari Narayan Puram, Metro tanker supply water to the synthetic tanks of three thousand litres capacity. The synthetic tankers usually cater the needs for 25-60 families. In areas such as Chindagiri, most of the people belong to the lowest strata of the society spend around Rs 3-5 per day, which is a great burden on their budget. In some places, a person is not allowed to takes more than three buckets. Where Metro Water has installed public hand-pumps, the fight over water is common.

The Chennai Metro Water claims to have increased drinking water supply to its 60 lakh consumers in the metropolis, but the residents in several areas of the city still complain of a lack of piped water supply. They say that they have to bank on private suppliers or buy packaged water-both costlier options. The residents of Puliyur Tamil Nadu Housing Colony in Kodambakkam have been trying hard to get piped water supply for several years; however only few of them got proper supply. Though the colony has been provided with tanker water supply, however some of the woman have developed health problems because of carrying water for eight years. Most working residents do not benefit from the tanker supply as they are at work at that time. Water obtained from hand pumps in also inadequate. A large number of the houses in AJ Block in Anna Nagar, despite their being located near Kilpauk

[56] Marcus, Moench & S. Janakrajan, 2002, "Water Markets, Commodity Changes and the Value of Water" Working Paper No. 172, Madras Institute of Developmental Studies, Chennai.

Water Works lack supply through hand pumps.

For two years now the residents of Waddels Road, Kilpauk and Park Street, Mangalapuram at Perambur have also complained of the lack of piped water supply for similar reasons.

(v) Sources of Water in Chennai

Table 7 (iii), 7 (iv) and 7 (v) gives the different sources of water in the city. Table 7 (vi) & 7 (vii) gives the tariff rate and the cost of production of water respectively.

Table 7 (iii)
Available sources under normal conditions[57]

Source	Location	Water Obtained (MLD)
Surface Water	Poondi, Redhills, Cholavaram	200
	Veeranam Lake (235 km away)	180
	Kandaleru dam (175 km away)	130
Groundwater	Well fields in A K basin, southern coastal aquifer and municipal sources	233
	Borewells in Neyvell-Panruti belt (when the Veeranam dries up)	90
Total		**833**

Table 7 (iv)
Metro Water's sources during the 2004 drought[58]

Source	Location	Water Obtained (MLD)
Groundwater	Transported through tankers	98
	Transported through pipelines from private agricultural wells and Metro Water wells along the north western fringes	95*
	Southern coastal aquifer (through pipeline)	3
	From Palar river bed (through pipelines)	2.5
Surface Water	Redhills	2
Sea	Desalination plants	0.5
Total		**201**

Table 7 (v)
Groundwater extraction from well fields[59]

Well fields	Year of commission	Number of wells	Safe yield (in MLD)
Minjur	1965	12	25
Tamaraipakkam	1979	22	32
Panjetty	1969	12	36
Flood Plains of Koratallaiyar	1987	5	13
Kannigaiper	1987	9	15
Poondi	1987	15	27
Total		**75**	**148**

[57] Ibid, as reported in 47

[58] Ibid, as reported in 47

[59] Ibid, as reported in 47

Table 7 (vi)
METERED CONSUMERS – TARIFF[60]

Category	Qty of water	Rate/KLRs.	Minimum Rate Chargeable (including Sewage charges) Rs.	Frequency of billing
Domestic				
Residential (i) Domestic Residential Premises (Other than Flats or Block or line of Houses)	Upto 10 KL 11 to 15 KL 16 to 25 KL Above 25 KL	2.50 10.00 15.00 25.00	Rs. 50/- per month per flat (including sewerage charges)	Monthly
(ii) Flats or houses in a Block of flats or line of houses respectively used wholly for residential purposes.	Upto 10 KL 11 to 15 KL 16 to 25 KL Above 25 KL	2.50 10.00 15.00 25.00	Rs. 50/- per month per dwelling unit (including sewerage charges)	Monthly
(iii) Individual flats or House in a Block of Flats or line of houses respectively used for other than residential purposes.	Partly Commercial – Rs. 150/- p.m. per flat Non Water Intensive – Rs. 400/- p.m. per flat **Water Intensive** – Rs. 650/- p.m. per flat **Private Hospital** – Rs. 800/- p.m. per flat **Institutional** – Rs. 300/- p.m. per flat **Pvt. Education Insts** – Rs. 400/- p.m. per flat			Monthly
B. Commercial	Private Hospital – upto 500 KL Rs. 50 / KL.	Rs. 800/-* (Water Intensive)		Monthly
	All others upto – 500 KL Rs. 35 / KL Private Hospital – above 500 KL Rs. 80/KL for entire quantity. All others – above 500 KL Rs. 60/KL for entire quantity		Rs. 400/- (Non Water Intensive) Rs. 800/-* (Water Intensive) Rs. 650/-* (Water intensive)	Monthly. Monthly. Monthly.
C. Partly Commercial	Upto 10 KL	5.00		
	11 to 15 KL	15.00		
	Above 15 KL	25.00		
D. Institutional	i) Pvt. Edn. Institution	40.00/KL entire quantity	400.00	Monthly
	ii) Govt. Hospital	20.00/KL entire quantity	200.00	
	iii) All others	30.00/KL entire quantity	300.00	
E. Municipal Bulk supply	Entire consumption	15.00	—	Monthly
F (i) Municipal Bulk supply	Entire consumption	7.00 (wherever Local bodies met the cost of infrastructure)	—	Monthly

[60] Ibid, as reported in 47

***Sewerage charges 25% on water supply charges wherever sewer connections are provided**		
*Water intensive means premises used fully or partly as Theatres, Hostels, Boarding Houses, Lodges, Clubs, Private Hospitals, Private Hostels, Kalyanamandapams, Clinic with inpatient facility, Swimming Baths, Places for keeping animals, Vehicle Service Stations, Nurseries.		
i. Hydrant and Public Fountains	Rs. 400/- per fountain per month including maintenance charges	Monthly
ii. Maintenance charges		
G. i. Mobile Water Supply to Slums	Rs. 4/- per 1000 litres for entire quantity supplied.	Monthly
ii. Maintenance charges for steel tanks	Rs. 200/- per month per tank	Monthly

H. **CASUAL WATER SUPPLY**	
Mobile Water supply to customers i. Domestic (including Hostels of Colleges and Schools Recognised by State/Central Govt./Govt. Qtrs. etc.	Rs. 400/- per load of 6000 litres/ Rs. 600/- per load of 9000 litres / Rs. 670/- per load of 10000 litres.
ii. Partly Commercial a) Domestic purpose b) Other than Domestic purpose	Rs. 400/- per load of 6000 litres/ Rs. 600/- per load of 9000 litres / Rs. 670/- per load of 10000 litres.
iii. Commercial (Including Private Hospital)	Rs. 510/- per load of 6000 lires / Rs. 765/- per load of 9000 litres / Rs. 850/- for per load of 10000 litres.
iv. Institutional a) Private Educational Institution including Hostels b) Govt. Offices/Schools/Colleges/ Hospitals etc	Rs. 510/- per load of 6000 lires / Rs. 765/- per load of 9000 litres / Rs. 850/- for per load of 10000 litres.
v. Water supply at the Metro water filling points a) Domestic Including Govt. Schools/Colleges/Offices / Institutions/Hospitals b) Commercial Including Private Hospitals / Private Educational Institutions.	Rs. 400/- per load of 6000 lires / Rs. 600/- per load of 9000 lires / Rs. 670/- per load of 10000 litres. Rs. 40/- per 1000 litres Rs. 60/- per 1000 litres Rs. 200/- per load of 6000 litres
vi. For the employees of the Chennai Metropolitan Water Supply and Sewerage Board who desires to avail the lorry water supply for their own household requirements, the cost will be calculated at actual cost price.	Rs. 300/- per load of 9000 litres.
I. Hire charges for tanks hired out	Rs. 250/- for two days and Rs. 50/- for every additional day.

UNMETERED COUNSUMER TARIFF

Category	Water charges / Month (including sewerage charge)	Sewage Charges Month	Frequency of Billing
A. Domestic			
Residential			
i) Domestic Residential premises (Other than Flats or Block or line of Houses)	Rs. 50/- per month per dwelling unit		Half Yearly
ii) Flats or houses in a Block of flats or line of houses respectively used wholly for residential purposes.	Rs. 50/- per month per flat		Half Yearly
iii) Individual flats or Houses in a Block of Flats or line of houses respectively used for other than residential purposes	Partly Commercial Rs. 150/- p.m. per flat Non Water Intensive Rs. 400/- p.m. per flat Water Intensive (All others)Rs. 650/- p.m. per flat Private Hospital Rs. 800/- p.m. per flat Institutional Rs. 300/- p.m. per flat Pvt. Educational Instn Rs. 400/- p.m. per flat		Half Yearly
B. Commercial	Water IntensivePrivate Hospital Rs. 800/- p.m. All others Rs. 650/- p.m.Non Water Intensive All other Rs. 400/- p.m.		Half Yearly
C. Partly Commercial	Rs. 150/- p.m.		Half Yearly
D. Institutional	i) Pvt. EducationalInstitution - Rs. 400/- ii) Govt. Hospitals – Rs. 200/- iii) All others – Rs. 300/-	—	Half Yearly
E. Public supply Tube Well Pumps or Mark 11 pumps	Rs. 40/-	Rs. 10/-	Half Yearly

Table 7 (vii)
Production cost of water from various sources as compared to the selling price[61]

Source	Cost (Rs per kilolitre)
Red Hills	4
Telugu Ganga (Krishna water project)	6
Veeranam	22
Reverse Osmosis	45
Domestic Borewell	3
Private tanker	70
Metro Water's selling price	2.5

(vi) Telugu Ganga Waters Don't Reach Chennai

The Telugu Ganga Project was conceived in 1970 and as far back as 1976, Andhra Pradesh, Maharashtra and Karnataka agreed to divert 12 thousand million cubic feet (TMC ft) to Chennai every year. But the project's first phase was commissioned only in 1996. It was expected to bring 5 TMC ft – 380 million litres per day (MLD) – from the Srisailam reservoir across the Krishna, through the Somaseelam reservoir on the Pennar river, and subsequently, through an open channel, to Poondi. The capacity of the city water works was increased to 300 MLD in anticipation of 8 TMC ft during July-October and 4 TMC ft during January-April.[62]

[61] Ibid, as reported in 47

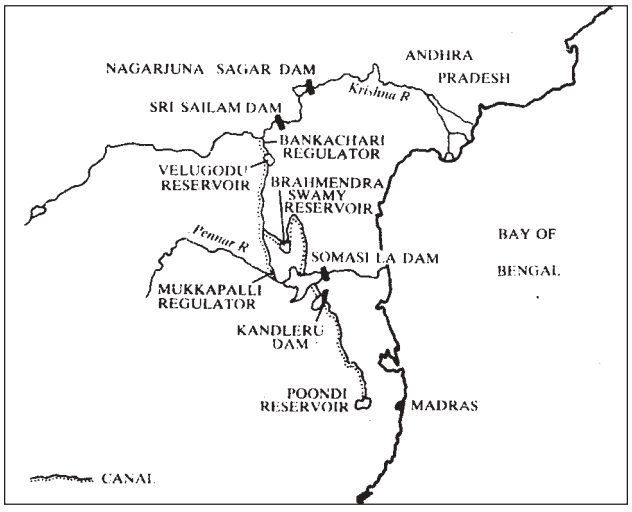
[62] Ibid, as reported in 48

But this amount hasn't reached Chennai since 1996. In seven years (1996-2003), the project delivered a total of 15 TMC ft to Chennai, instead of the projected 84 TMC ft. However, the water reaching the city has been considerably less than receipts at the state border because of seepage in channels and other losses en route. It is estimated that 5 TMC ft at the state border adds a mere 1.5 TMC ft – less than one third of the original – in the reservoirs.

On February 16, 2004, the Krishna river water released from the Kandaleru reservoir in Andhra Pradesh reached the state border near Uthukottai in Tamil Nadu after traveling 152 km. It was to reach Poondi, and then course 35 km down the Baby canal to the Redhills reservoir for being treated and ferried in tankers. But such hopes evaporated on February 18 with the Poondi canal remaining dry. This was attributed to illegal tapping of water by farmers and the withdrawal of water to meet the demands of Tirupati town in Andhra Pradesh. The increasing height of the Almatti dam in Karnataka is also one of the reasons, as the water gets stored in Srisailam dam which then flows to Kandaleru dam,.

As per a 1997 estimate, the total cost of the project is Rs 2,400 crore, of which Tamil Nadu's share is Rs 640 crore. The second phase of the project is expected to provide an additional 7 TMC ft per year at the Tamil Nadu border by 2011. But even if the water is released as scheduled, how much will reach the city?

The Srisailam Dam and Telugu Ganga Project



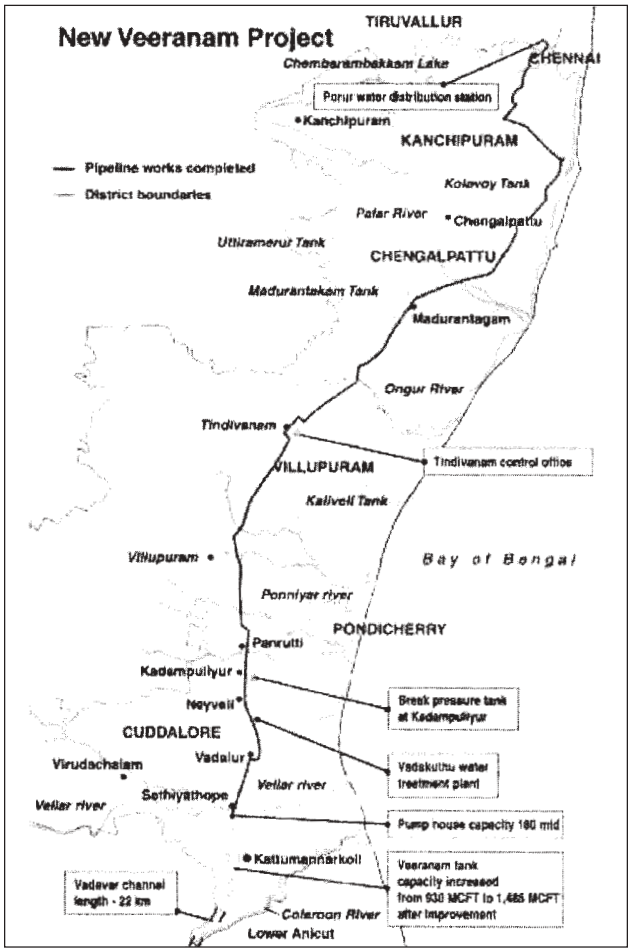
Source: Shiva, 1991

[63] Ibid, as reported in 48

(vii) New Veeranam Project

New Veeranam project is known as the solution of all the problems. Under the project, a pipeline has been built to bring 180 million litres of water per day to Chennai from the Veeranam lake in Sathiathopu, Cuddalore district, 235 km. away. The project was launched in February 2003 and completed June 2004. But the World Bank-funded Rs 720 crore-project was unable to provide the lake's water to Chennai when it needed the most. This is because every year, from February to July, the lake stays dry.[63]

The Veeranam lake gets 75 per cent of its water from the Cauvery river, the remaining comes from the 427.5 sq km catchment during the northeast monsoon. Tamil Nadu and Karnataka have been locked in a 30-year-old bitter dispute over the river's water. As the lake was dry when the project was completed, Government had 45 borewells sunk along the length of the pipeline and connected to it.



Source: Sridhar, 2004

But villages along the pipeline feel cheated – the water going into the pipeline is the irrigation they are denied. Due to repeated droughts, several farmers in the region are in heavy debt.

The Government says it is supplying only the excess water from Veeranam to Chennai. The reality is that farmers here don't have enough water for a single crop. Most farmers have stopped growing their first crop (July-September) over the past 30 years because the dam gets very little water from the Cauvery. They started relying solely on the second crop (September-January) irrigated by the lake's waters during the northeast monsoon.

(viii) Abandonment of New Veeranam Extension Project

Taking into consideration the opposition from Perambalur farmers, the Government announced that it would not go ahead with the New Veeranam Extension Project. The water was to be tapped from six huge tube wells in the river bed in Perambalur and Thanjavur districts and reaching it the Veeranam Lake, from where it would be taken to Chennai 150 km away. Farmers in the four riparian districts had protested fearing that the project would deplete groundwater and hurt their agricultural operations. The extension project was conceived to ensure that Chennai got drinking water during summer even when the Veeranam Lake did not have sufficient water.

However, Chennai would get drinking water from next year from the desalination project undertaken by the Government.

As the desalination project was to be completed only next year, the extension project was meant to take care of the current year's water requirements. But following the recent rains water from the Coleroon river reached the Veeranam Lake.

Thus when it was possible to draw water for Chennai's daily supply from the Veeranam Lake, the extension project was being dropped.

Before the extension project was begun in December 2004, experts from various departments studied the water available from the Coleroon and the implications of drawing water from the river.

The Rs 300 crore scheme is envisaged to bring 150 million litres a day (MLD) surface water from the Kollidam river bed to thirsty Chennai.

Interestingly, the government has chosen to drop the scheme altogether despite to go-ahead from the court.[64, 65 66]

(ix) Private Tankers

During the rainy seasons approximately 2000 private tanker trucks of 12,000 litre capacity supply raw water in the Chennai urban area. In addition, there are about 150 private companies that purify and deliver drinking water in 12 litre cans, 1-2 litre bottles and plastic packets. The tanker trucks alone are estimated to make at least three trips/day during the rainy season, equivalent to delivering 72 mld and this doubles to approximately 144mld during the dry season. When Metro Water Authority is only able to deliver 59 lcpd to the 4.56 million residents, their total delivery capacity is approximately 269 mld. In this situation, the private tankers are supplying 35% of the total demand and their supply capacity is approximately 54% of the Metro Water Authority supply capacity.

The tanker and private company market is highly fragmented. Numerous small companies run one or two tankers. They bring water either from their own wells or purchase it from farmers and other well owners. Many small purification companies are also present, each with their own facilities and each operating independent of any external check on the quality of the water they supply.

Prices charged for water supply in the public and private sector vary greatly. During the rainy season, tanker owners charge regular customers approximately Rs 400 for a full 12,000 litre tanker load of water, (Rs 33/1000 litre) and during the dry season Rs 450. the rate is higher for occasional customers;

[64] Singh R. Bhagwan 2005,b "Jaya Drops Veeranam Plan", 19th April 2005, Deccan Chronicle, Chennai.

[65] Hindu 2005b, "Government Abandons Veeranam Extension Project After Protest", 19th April 2005, Hindu, Chennai.

[66] New Indian Express 2005, "Jayalalithaa Gives up New Veeranam Extension Project", New Indian Express, Chennai, 19th April.

approximately Rs 500 and Rs 540 respectively. During droughts the rate increases still further up to Rs 800 per tanker load. Although market data are not available, Metro Water Officials have reportedly demanded Rs 600 as bribe for sending 9000 litres tankers to some localities. It reflects pretty much the scarcity induced market conditions.[67]

The private and public water market chains show the massive increase in the cost of water between initial purchase. Farmers and other well owners typically sell water to transporters at Rs. 3.3/m^3 consumers pay a minimum of Rs 33/m^3 for bulk raw water during the rainy season and as much as Rs 20,000 for purified water when it is sold in 250 ml plastic packets for Rs 5. Between the initial point of sale and the ultimate point of consumption, the price increases by many orders of magnitude. While this price increase reflects substantial service inputs (transport, purification, packaging, storage and cooling), the potential profits involved are very large.

Farm water for the city

During the 2003 drought, Metro Water bought from farmers the rights to pump water from nearly 164 borewells. In 2004, it bought rights to another 44 borewells from farmers. Under the agreement, farmers are paid Rs 40 per a 10,000 litre tanker. A majority of the farmers have small landholdings that don't earn them much. They prefer to sell water from their borewells as that earns them more money.

Hydrogeologist says once the dynamic groundwater reserves are exhausted and the deeper, static reserves are exploited, replenishment of groundwater levels can't happen to the previous levels. Doesn't matter if irrigation is resumed, rainfall is good, or even a flood occurs. The farmers' borewells have been drawing water continuously. The aquifers are so exhausted that these bores now yield less than half of what they used to in 2003, while some have dried up completely.

An additional cost every day of Rs 1 crore is incurred. With absolutely no water being supplied by Metro Water through the pipeline for nine months, private tanker operators become big players. At the peak of the crisis, about one-fifth of Chennai's demands are met by private operators, who have become an influential lot.

TANKERS SOLVE NOTHING

- In Chennai today, private tankers owners, who do not belong to lorry owners association love to transport water.
- For one trip, these truck owners pay Rs 20 for road tax, and insurance, Rs 15-20 for the driver Rs 7-9 for the helper. They purchase water from farmers 30 km outside the city, and pay him Rs 50. The total cost per trip is Rs 99 only.
- The sell it at premium Rs 480-500 for large customers (foreign consulates, hotels, universities, hospitals) and upto Rs 550 for private residential consumers.
- There are 150 companies and around 700-800 trucks competition among these companies is stiff but the water demand is stiffer.

WATER PACKETS & WATER CANS

- Water packing is another huge business. In 2004 packaging plant owners in Chennai raked a whopping Rs 50 crore every month.
- Of the 400 water packaging companies that have strung up in the city, about 200 are believed to be illegal.
- In Chennai more than 50 lakh water packets at Rs 1 for 250 ml are sold every day. The city also accounts for about 1 lakh water cans (12 litres at Rs 18-22).
- Should a Chennai citizen keep paying through his nose or should be ensure his own supply of water.
- Chennai is always in water crisis. The gap between demand and supply is a whopping 200 million litre per day. (Demand is 600 MLD, supply is 400 MLD)

Table 7 (viii) shows the daily water needs and Table 7 (ix) shows the sale of water through lorries within 24 hours.

Cost of water for different forms of sale is shown in Table 7 (x). The private and public water market changes are shown in the figure 1 to 3, these indicate

[67] Ibid, as reported in 56

Table 7 (viii)
Metro Water's Daily Water Need by Tankers Rs. 1 Crore Every Day[68]

	Nov. 2003	Jan. 2004	March 2004	May 2004
Amount of Water ferried over long distances by tankers (MLD)	38	74	140	203
Number of tankers hired	595	726	1.100	1,300
Number of daily trip	6,733	7,555	9,500	12,000
Number of fixed plastic tanks installed	10,030	10,430	11,315	13,500
Number of new borewells sunk	5,500	6,500	7,000	7,500
Daily expenditure (in Rs lakh)	55	70	85	100

Table 7 (ix)
Sale of Water Through Lorries Within 24 Hours[69]

Category	Amount/Per load of 9 KL	Amount/Per load of 10 KL
Domestic (including Hostels of Colleges and Schools Recognized by State/Central Govt./Govt. Qtrs. Etc.	Rs. 600/-	Rs. 670/-
Partly Commercial Domestic purpose Other than Domestic purpose	Rs. 600/- Rs. 765/-	Rs. 670/- Rs. 850/-
Commercial (including private Hospitals)	Rs. 765/-	Rs. 850/-
Institutional Private Education Institution incl. Hostels.	Rs. 765/- Rs. 600/-	Rs. 850/- Rs. 670/-

Table 7(x):
Cost of Water for Different Kinds of Sale[70]

Kind of Sale	Cost (Rs/m^3)
Value of water at rate Metro Water Authority charges to customers	0.14
Rate at which water is sold by farmers to transporters	3.15
Cost to Metro Water Authority of supply	15.11
Water sale charges (bulk private)	33
Water sale as represented by metro bribes for bulk deliveries, drought periods	67
Water sale in cans (at Rs. 1.25/litre)	1,250
Water sale rate bottles (at Rs. 10/litre)	10,000

the massive increase in the cost of water between initial purchase and final sale.

Recently for its venture into water retail, Hindustan Liver Ltd. (HLL) has opened 17 outlets spread over potable water-starved Chennai and another one in Coimbatore. These outlets, designed as demonstration centres, double as promotional hubs and sales points. What they churn in feedback and sales will be crucial for the Rs. 10,000-crore giant in the months to come. That is because Chennai is a test market. Based on the results there, HLL would launch the brand in other developing markets in South-east Asia and Africa.[71]

[68] Ibid, as reported 47

[69] Ibid, as reported 47

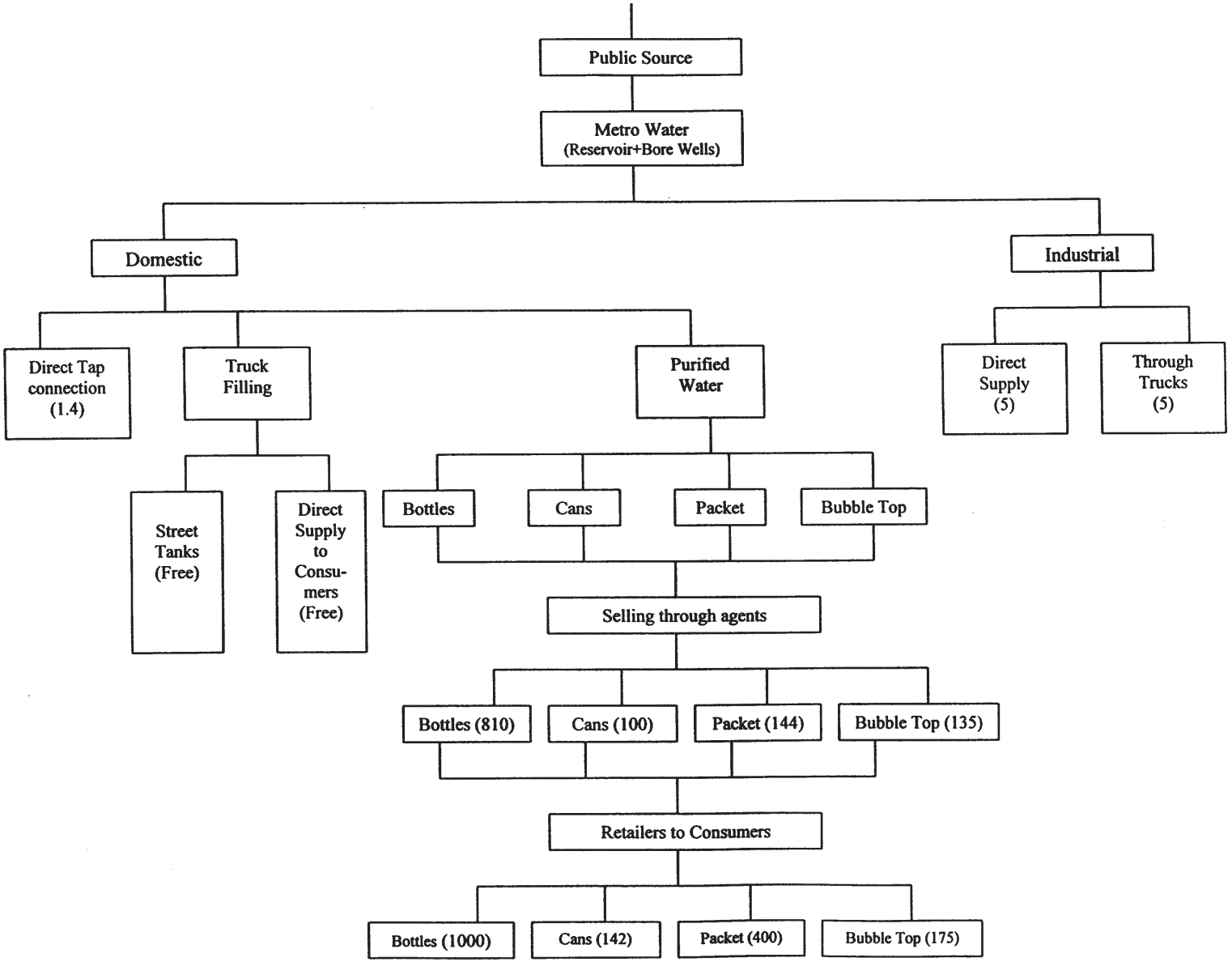
[70] Ibid, as reported in 56

[71] Krishnan, Gina S. 2005, "Clean Water for Cash Flows", Business World, 8 August, 2005, Vol. 25, No. 11, New Delhi.

Figure 1

Water Market Chain in Chennai City[72]

(Figures in Brackets indicate cost per litre in Paise)



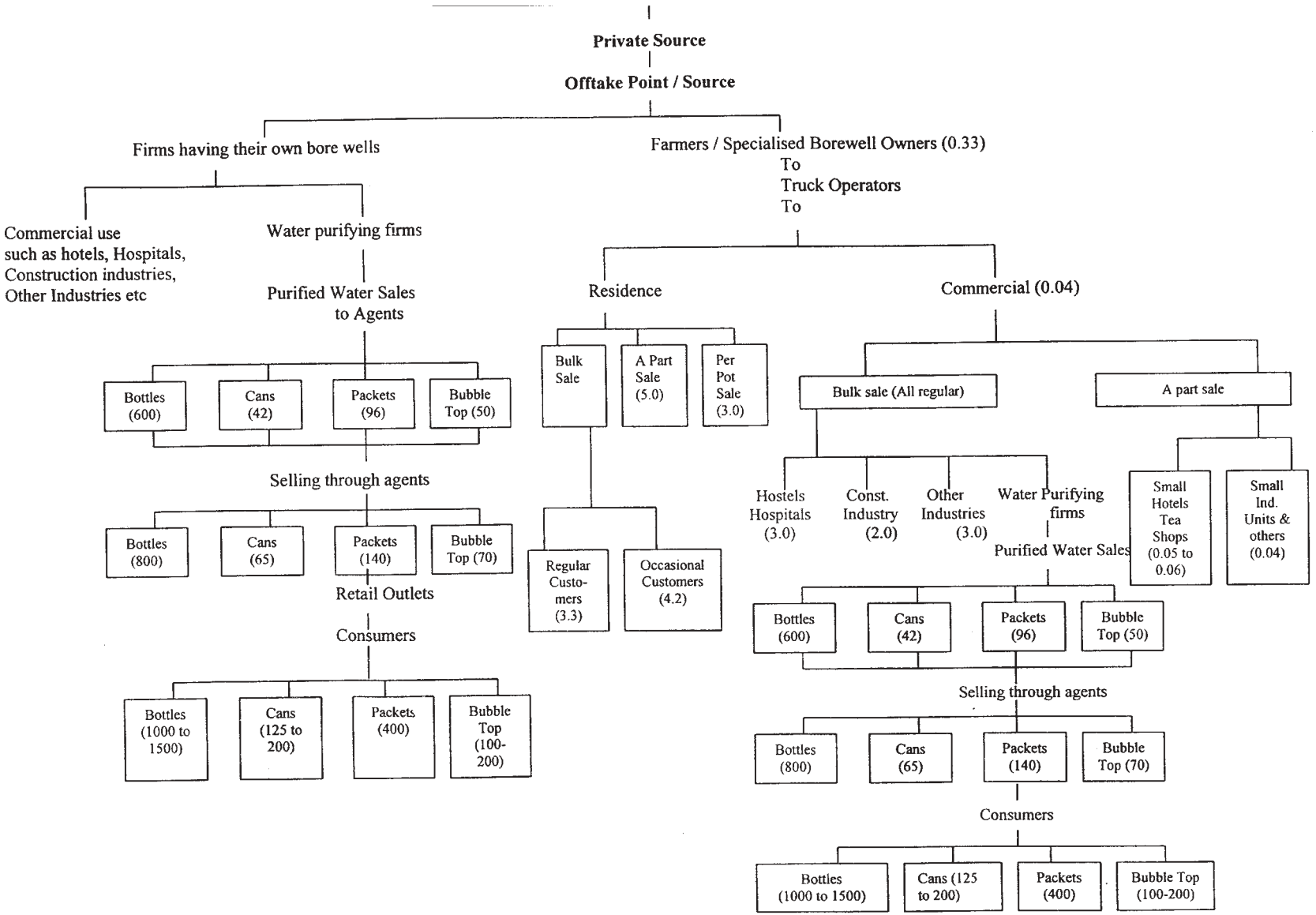
[72] Ibid, as reported 56

Figure 2

Water Market Chain in Chennai City[73]

(Rainy Season)

(Figures in Brackets indicate cost per litre in Paise)



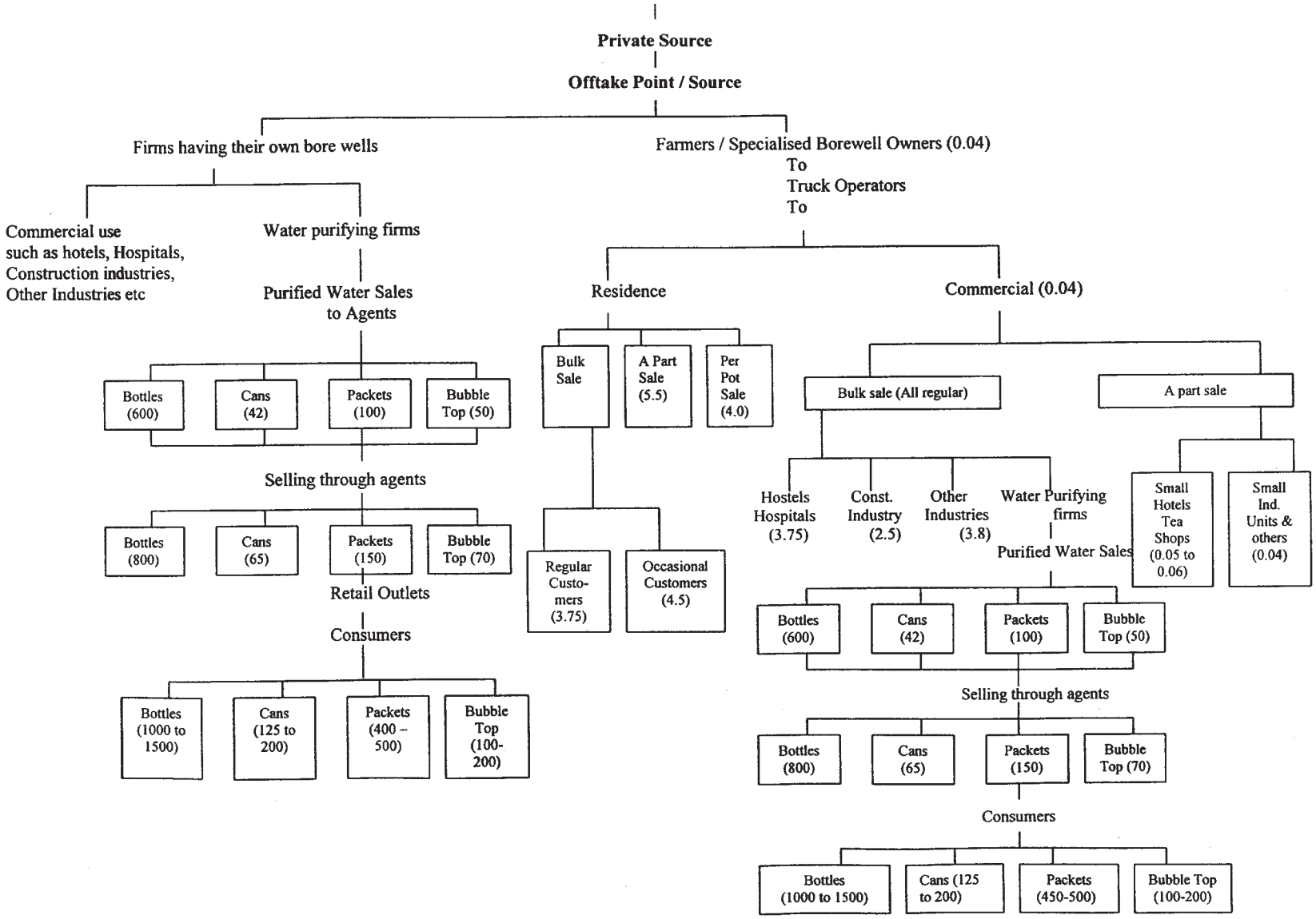
[73] Ibid, as reported 56

Figure 3

Water Market Chain in Chennai City[74]

(Summer Season)

(Figures in Brackets indicate cost per litre in Paise)



[74] Ibid, as reported 56

(x) Desalination Plants

With the surface and groundwater options either running dry or proving highly undependable, Chennai is now looking at the sea. In several parts of the world, desalination projects have reliably met the water needs of large urban populations and in a cost-effective manner. Chennai's experience with treating brackish groundwater has been positive. Metro Water has established five such units. Using the technology of reverse osmosis, the plants provide potable water to about 40,000 people at the rate of Rs. 36 per kilolitre as shown in Table 7 (xi).

Varying estimates have been given for various technologies based on model desalination plants, with the minimum treatment cost of Rs 50 per kilolitre. The cost of desalinated water will far exceed the cost of water from other sources.

Table 7 (xi)
Treating brackish water[75]

No of desalination plants	5
Plants in operation	4*
Aggregate capital cost	Rs 1.73 crore
Quantum of water produced	500,00 litres per day
Cost of water	Rs 36 per 1,000 litres

**The fifth plant is closed for maintenance*

(xi) Intrusion of Sea Water into Wells

Water level fell up to 6 metres below sea level

Water, which was once sweet, now tastes salty in some localities like Besant Nagar. Salinity set in over the past decade. Seawater has entered into the wells of about 90 per cent of the households in the area in a short span of four years. Groundwater has turned so salty that pipes in many house have rusted and the water can only be used for flushing.[76]

Besides putting residents on the receiving end for drinking water, the brackish water has also affected the health. People have to bear the medical expenses to cure skin disorders along with the amount they spend every month on drinking water. Residents of Kamban Street have no option but to depend on tankers or pump from hand pumps as the groundwater has become unusable even for washing purposes.

Citing the proliferation of apartment complexes and over extraction as reasons, a resident said, 'The rainwater harvesting system had an impact only in few houses as withdraw without much recharge still persists'. A study conducted by the State Ground and Surface Water Resources Data Centre, a wing of Public Works Department, also confirms the status of increasing seawater intrusion in Besant Nagar.

The study, which had five bore wells and seven open wells observed for water level and quality, revealed that most parts of Besant Nagar are in precarious position. While the water level declined up to 6 metres below sea level in August 2004, quality has also deteriorated. The ratio of bicarbonate in seawater, which must be less than 1, has exceeded than chloride in fresh water in areas, including TNHB Conly and Kalakshetra Colony.

The study shows that the groundwater divide between fresh water area and contaminated area (by sea water) is moving to and fro according to withdrawl and recharge.

If the present trend of withdrawl continues, the sea water intrusion might move more towards the land and the entire area and its aquifer would be affected. Besides adopting rainwater harvesting, the regulations of groundwater exploitation must be strictly enforced to avoid further intrusion.

(xii) Water Bodies for Eco-Restoration

A study commissioned by Department of Environment and conducted by the CPR Environmental Education Centre surveyed 46 lakes in the Chennai Metropolitan Area and identified 13 lakes in suburban Chennai that could be taken up for restoration. While preparing the detailed project report, the department would also assess the quality of water in

[75] Ibid as reported in 47

[76] Lakshmi, K. 2005,b "Seawater Finding Its Way into Most Wells in Besant Nagar", 22nd April 2005, Hindu, Chennai.

the lakes and the treatment facilities that need to be installed. Among the biggest threats to the water bodies is the disposal of solid wastes and discharge of sewage, the survey has identified.[77]

Of the 46 water bodies in Greater Chennai, the following 13 are being considered for eco-restoration:

Velachery

Puzhuthivakkam

Moovarasampettai

Kilkattaiai

Kovilampakkam

Narayanapuram

Avadi

Ambattur

Korattur

Rettai Eri

Ayapakkam

Chetpet

- 8 lakes had water before monsoon. An analysis revealed that Ayapakkam and Velachery lakes had reasonably good quality water.
- The major problem faced is dumping of garbage and discharge of sewage.
- Weed growth and siltation, encroachments and blockage of inlets and outlets threaten the existence of these water bodies.
- Only one water body in the list the Chetpet Lake is with in the city limits.

[77] Bhattacharya, Saptarshi 2005, "13 Water Bodies Short-listed for Eco restorotation", 23rd April 2005, Hindu, Chennai.

8

Privatisation of Water Sector in Rajasthan

World Bank's project "Rajasthan Water Sector Restructuring Project", earlier known as (Rajasthan Water Resources Consolidation Project) focuses on a shift towards more participatory irrigation management. Participatory Irrigation Management has been the official policy in India since the National Water Policy was enacted in 1987. At that time, the government endorsed the efforts already made by many NGOs and progressive elements within state-level irrigation departments to devolve management responsibility to farmer associations at the tertiary level of large-scale irrigation systems. The stated goal of the 1987 policy was to consolidate farmer management at the tertiary level and to encourage farmers to take over management at the next level of the physical system, i.e. the secondary level. But in practice, little was done to really promote what had the potential to be a radical shift in irrigation management. In a few regions, notably Maharashtra, the Irrigation Department encouraged farmers to form associations for management of small secondaries. But larger secondaries, above 300-500 hectares, were generally considered too complicated for farmers to manage. The result has been that, after more than 7 years of the new policy, there has been little real change in the management of irrigation. Now, both government and farmers appear to be ready for a new approach that will bring users and irrigation engineers into a direct partnership.

Rajasthan Water Sector Restructuring Project
List of Schemes

S.No.	Name of Schemes	CCA in	Estimate cost in Million Rs.
	MAJOR SCHEMES		
1.	**Bhakra Canal System**	149774	
	(a) Sadul Branch System	86079	
	(b) Amarsingh Sub Branch System	50702	
	(c) Ghaggar Sub Branch System	12993	
	Sub Total	**149774**	**1054.02**
2.	**Gang Canal System**		
	(a) H System	26478	
	(b) F System	27619	
	(c) KK Sulemanki System	7692	
	(d) RB System	22832	
	(e) PS System	15051	
	(f) LNP System	25328	
	Sub Total	**125000**	**814.40**
3.	Jawai	38671	305.52
4.	Parbati	25368	164.37
5.	Morel	16720	82.82
6.	Galwa	13391	109.62
7.	Sardarsamand	11619	102.26
8.	Gudha	11376	100.51
	Total of Major Schemes (8 Nos.)	**391919**	**2733.52**

	MEDIUM SCHEMES		
9.	Bhim Sagar	9986	39.47
10.	Orai 9260	68.01	
11.	Hemawas	8684	18.34
12.	West Banas	7952	33.19
13.	Alnia	7882	41.29
14.	Gambhiri	7599	53.33
15.	Parwan Canal System	7550	60.64
16.	Mora Sagar	7374	43.39
17.	Bharatpur Feeder	7278	27.38
18.	Mashi	6985	49.33
19.	Nandsamand	6163	49.06
20.	Juggar	5927	29.70
21.	Somkagadar	5731	23.74
22.	Ramsagar	5600	39.07
23.	Bundi Ka Gothra	5560	45.02
24.	Bankali Bund	5382	41.93
25.	Jaisamand	4790	17.43
26.	Ora 4616	25.57	
27.	Burdha	4251	34.86
28.	Baretha	4243	27.12
29.	Khard	4073	26.90
30.	Surwal	3963	16.25
31.	Jetpura	3730	26.74
32.	Angore	3455	12.40
33.	Bhimlet- Abhaypura	3402	29.38
34.	Kalakho	3400	24.81
35.	Sainthal Sagar	3267	19.83
36.	Ummed Sagar	3249	20.82
37.	Mansarovar	3168	17.29
38.	Ummed Sagar	2968	24.54
39.	Nahar Sagar	2939	21.10
40.	Urmila Sagar	2,900	19.61
41.	Buchara	2638	19.83
42.	Raipur Luni	2605	16.22
43.	Kharda Dam	2451	23.37
44.	Chittoli	2280	18.08
45.	Motisagar	2157	17.21
	Total of Medium Schemes (37 Nos.)	**185458**	**1122.25**

	MINOR SCHEMES		
46.	Paibalpura	1930	13.60
47.	Mithri	1913	7.71
48.	Jhadol	1905	9.58
49.	Deopura	1860	6.93
50.	Lodisar	1792	14.08
51.	Banakia	1655	11.67
52.	Govta	1620	12.41
53.	Raiti1576	10.37	
54.	Deoti	1410	10.06
55.	Saran Kheri	1377	9.97
56.	Basundani	1360	4.92
57.	Ogna	1252	9.78
58.	Mandal	1152	8.52
59.	Gadola	1098	5.19
60.	Kundeli	1063	4.60
61.	Male	1045	7.76
62.	Chandpura	1016	6.04
63.	Chandrana	1012	8.05
64.	Pech Ki Baori	991	7.87
65.	Som Pickup Weir	969	7.66
66.	Mangalsar	958	7.38
67.	Harchand	909	7.32
68.	Margia	866	6.72
69.	Gajpur	771	6.17
70.	Mansagar	729	6.00
71.	Kejar	688	5.39
72.	Vatrak	626	4.94
73.	Mundliya Kheri	591	5.21
74.	Baba Ki Bar	588	4.21
75.	Anwasa	586	4.12
76.	BK Sareri	586	4.48
77.	Punjpur	582	4.69
78.	Jhadol	530	3.62
79.	Madar Ka Nallah-I	491	3.30
80.	Sukher Ka Naka	480	3.90
81.	Bhadar	461	3.56
82.	Galiyana	446	3.59
83.	Kantri	428	3.41
84.	Bilpan	425	3.42

85.	Goriyon Ka Naka	410	3.27
86.	Chawand	361	2.78
87.	Baxa Ka Naka	348	2.69
88.	Kaladeh	297	2.47
89.	Nagmala	254	1.97
90.	Gangaria	233	1.78
91.	Banina	178	1.33
	Total of Minor Schemes (46 Nos.)	**41818**	**284.49**
	Total	**619195**	**4140.26**
	OTHER INFORMATION		
1.	No. of Districts	24	
2.	No. of Division	27	
3.	No. of Circle	12	
4.	No. of MLA	78	
5.	Schemes of		
	(a) Kota Zone	13	
	(b) Jaipur Zone	26	
	(c) Jodhpur Zone	11	
	(d) Udaipur Zone	39	
	(e) C.E. (North)	2	
	Total	**91**	

Project Summary

The main development objectives of the Rajasthan Water Sector Restructuring project (RWSRP) are to: (i) strengthen the capacity for strategic planning and sustainable development and management of surface and groundwater resources in Rajasthan; and (ii) increase the productivity of irrigated agriculture through improved surface irrigation systems performance and strengthened agricultural support services, involving greater participation of users and the private sector in service delivery in Rajasthan.

Performance Indicators

(a) completion and use of four high priority river basin plans, as the basis for sustainable development, allocation, and use of water resources (both surface and groundwater); (b) improved surface irrigation systems performance (620,000 ha rehabilitated, system operating efficiency improved by about five percent); (c) established, well functioning, and financial]y sustainable water user associations (WUAs) (up to 620); (d) full cost recovery of system O&M costs, funding of O&M requirements (Rs 550/ha in FY 2000 prices); (e) increased yields (up to 20 percent for cotton, mustard, and wheat); (f) restored area under-irrigation (about 90,000 ha); and (g) increased farm household incomes per year (up to about Rs 20,000, Rs 15,000 and Rs 5,000 in major, medium and minor schemes respectively).

Key policy and institutional reforms supported by the project:

C.2. 1. The project would support significant institutional reforms as follows: (i) strengthening institutions within the sector in the areas of strategic water resources planning, including environmental management; (ii) reorientation and capacity building of the line departments that manage surface and ground water; (iii) greater beneficiary participation in irrigation management; (iv) ensuring a level of water charges so that revenue collected is equal to the cost of irrigation system O&M; (v) piloting community driven solutions to sustainable groundwater management; (vi) adopting a new institutional structure for agricultural support services; and, (vii) piloting commercialization/ privatization of irrigation services.

Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

C. 1.1. The RWSRP comprises three components: (i) water sector institutional restructuring and capacity building; (ii) improving irrigation system perfornance; (iii) establishment of a project management unit.

Water Sector Institutional Restructuring and Capacity Building ($31.53m)

C.1.2. This component focuses on ensuring the effective functioning of key institutions for sutainable water resources managment and systems performance in the State. Specifically, this component would support: (i) the creation of a State Water Resources Planning Department (SWRPD) which would be responsible for planning and regulation and ensuring consistency of implemenation of basin

plans across Departments, the restructuring and capacity building of the Irrigation Department (ID) to change its role to one of effectively providing client-oriented water services, and the strengthening of the capacity of the Environment Policy Planning Unit in the SWRPD to formulate and implement environmental protection and management strategies and policies linked to the water sector ($4.12 million); (ii) the modemization of management information systems in the GOR water sector departments (ID, GWD, CAD&WUD) that would provide important inputs to the process of strategy and policy formulation and program implementation ($8.18 million); (iii) the piloting of community-based institutions for more sustainable groundwater management in at least three water-scarce areas and the strengthening of the data collection and technical capacity of the Ground Water Department ($14.71 million); (iv) the establishment, on a pilot basis, of a farmer owned and managed water utility, operating on commercial lines, that would take over the operations and management of a distributory command of about 6000 ha ($1.39 million); (v) strengthening of the ID's capacity for handling R&R issues in the water sector ($1.13 million); (vi) research on critical water-related issues in the State managed by a new Research Advisory Committee (RAC) ($1.07 million); and, (vii) information, education and communication campaigns to build broad-based consensus and support for the State Water Policy and the reform program in the Water Sector (0.93 million).

Improving Irrigation System Performance ($147.73m)

C. 1.3. This component, to be imnplemented by the ID and the AD, centers on raising irriated agricultural productivity, water use efficiency, and irrigation system performance in the project area through greater participation of users in systems O&M, increased cost recovery, and improved agricultural support services delivery. The restructuring of the ID as outlined above to a more service oriented department would be closely linked to this component. It would support: (i) the fornation and fostering of up to 620 WUAs in the project area, covering about one third of the state's irrigation area. These WUAs would, over time and in close coordination with the ID, take over the operation and management of surface irrigation systems up to the distributory level. The GOR commitment to moving towards full cost recovery of O&M costs would help ensure the longer term financial viability of these farmer organizations ($2.21 million); (ii) participatory rehabilitation of about 90 (major, medium and minor) schemes covering about 620,000 ha by WUAs and ID, with WUAs contributing 15% of the rehabilitation costs of the works under their control. ($114.52 million); (iii) strengthening of agricultural extension services in the project area through the introduction of multidisciplinary (irrigation, agriculture, horticulture, animal husbandry, etc) technical support groups (TSGs), and public-private sector coordination for technology transfer to farmers ($12.62 million); and, (iv) enhancing the safety of 16 dams supplying water to the project area through rehabilitation ($18.38 million).

Project Management Unit ($0.96m)

C.1.4. This component supports the establishment of a project management unit that would ensure the "effective implementation and coordination of activities that involves several government departments, SWRPD, various water departments, agriculture, and environment. This component would fund provision of office equipment, computers, training, consultancy services, and some limited incremental recurrent expenditures. ($0.96 million).

Indicative Bank- % of Component Sector Costs % of financing Bank- (US$M) Total (US$M) financing

(A) Water Sector Institutional Institutional 31.53 17.5 24.66 17.6

Restructuring and Capacity Building Development

(B) Improving Irrigation System Irrigation & 147.73 82.0 114.58 81.8

Performance Drainage

(C) Project Management 0.96 *0.5* 0.76 *0.5*

Total Project Costs 180.22 100.0 140.00 100.0
Total Financing Required 180.22 100.0
140.00 100.0

G. Main Credit Conditions

1. Effectiveness Condition

Standard Conditions of Effectiveness

2. Other [classify according to covenant types used in the Legal Agreements.]

G.2. 1.

* *Project implementation and management: To establish effective project management arrangements, Rajasthan shall;*

(i) Establish no later than one month after project effective date a PMU under ID for overall project coordination and promptly thereafter equip PMU with computer based MIS.

(ii) Ensure that, starting in December 31, 2002 the PMU, no later than December 31 of each year, shall prepare an annual action plan satisfactory to IDA and submit it to the Bank for approval and thereafter implement the project in accordance with the plan.

(iii) Maintain policies and procedures adequate to enable it to monitor and evaluate the project on an ongoing basis, in accordance with indicators satisfactory to IDA.

(iv) Engage an M&E agency, independent of the implementing departments no later than June 30, 2003, under terms of reference suitable to IDA.

(v) Establish by June 30, 2002, the SWRPD and make it fully functional by June 30, 2003. Submit quarterly project reports in a format suitable to IDA, no later than 45-days after the end of each quarter, commencing with a report on the third quarter ending September 30, 2002.

(vii) Prepare a report on or about September 30, 2004 and September 2006 respectively under TOR satisfactory to IDA, integrating the M&E activities under the project and submit to IDA for conducting two formal reviews on or about October 31, 2004 and 2006 respectively.

* *Water Charges:* Revise water charges in the irrigation sector no later than April 30, 2004 and April 30, 2007 respectively in accordance with a time bound action plan agreed with IDA, to ensure that the total annual revenue from such revised charges will meet 50% and 100% respectively of the full cost of O&M of the irrigation system.

* *Environmental Management: Rajasthan shall:*

(i) Implement the EMP for the project in accordance with a schedule satisfactory to IDA.

(ii) Develop an environmental policy and strategy for the water sector satisfactory to IDA by June 30, 2004.

(iii) Fully staff the new environmental units created under the project by June 30, 2003.

* *Land Acquisition:* Rajasthan shall ensure that any unavoidable displacement of population or major land acquisition that may arise during project implementation be addressed in accordance with Rajasthan's water sector R&R policy.

3 *Integrated Pest Management:* Rajasthan shall prepare an IPM plan satisfactory to IDA, by June 30, 2005.

* *Tribal Development Plan:* Rajasthan shall ensure that the tribal population in the project area benefit fully from the project activities through the implementation of the tribal development strategy, as agreed with IDA.

* *Safety of Large Dams:* Rajasthan shall constitute a DSRP with membership satisfactory to IDA by June 30, 2002.

* *Water Sector Research:* Rajasthan shall establish a water resources research fund and a managing RAC by June 30, 2002.

In order to claim the loan, the Govt. of Rajasthan (GOR) had completed the following reforms:

Water Sector Reforms:

* State Water Resources Policy adopted

* SWRC, chaired by CM established and functioning

* Interdepartmental SC on water resources, chaired by CS established and functioning.

Coordination & Oversight:

* The Program Steering Committee, chaired by the Chief Secretary and comprising secretaries of concemed departments has been established.

* High powered committee to review procurement bids and award contacts established.

* Selection and training of initial project procurement staff for the PMU has been completed.

* Agreement in principle on independent M&E consultant (details to be agreed at negotiations).

Irrigation & Drainage Sub-Sector Reforrns:

* Water charges doubled in April 1999.
* Agreed to raise water charges further to cover full O&M by project end.
* Adopted a water sector R&R policy.
* Enacted the Rajasthan Farmners Management of Irrigation Systems Act (2000).
* Baseline survey completed.

Procurement

* 47 packages amounting to US$33 million have been cleared by the Bank.

Water Crisis in Jaipur

Water Supply in Jaipur is looked after by the PHED (Public Health Engineering Department). As per the existing scenario, the water supply for the city is made available mainly through the groundwater. Ramgarh reservoir, about 48 Kms away from the city. The groundwater sources through a network of tubwells spread all over the city contributes 70% of the city requirements while Ramgarh reservoir supplies only 30% of the requirement.

Unsustainable Practices

As per the estimates of ground water department, the water table in Jaipur city is lowering down at the rate of 2 metres per year. A study carried out by German consultants for PHED found that the groundwater in Jaipur has depleted to such low level that the water supply would not last for another two years. The groundwater potential maps reveals most of the area in grey or dark zone. Also some areas have high fluoride content in the groundwater.

The urban sprawl in recent years has increased the water requirements on the one hand and reduced the groundwater recharge on the other hand due to surface ceiling. One unsustainable practise has led to another and consequently, the availability of water from ground sources may not be able to meet the present and the future needs.

Rajasthan, being an arid area was always used to less water. The communities designed their own system in harmony with nature. Water was always sufficient in Jaipur with a network of traditional systems. Even now Galta ji in Jaipur and Panna Meena water harvesting kunds have water supply throughout the year. The unsustainable practices began entering with the entry of world bank, its loans and its promises of a westernised system. The city is expanding its frontiers and has become a megacity. The recent monsoons left the city in a flood for a week and then the water disappeared as runoff, instead of recharging the groundwater. The sustainable way would be to make use of local resources for a sustained future. Instead a pseudo-sustainable plan put forward by ADB and the World Bnk has been flagged off: the Bisalpur Water supply Project.

The Plan for Future

The plan for the future is a surface source, Bisalpur water supply project, executed by PHED and financialy aided in the form Urban infrastructure loan from ADB. A dam constructed over River Banas near Bisalpur village of Tonk district is the future source of water supply for the two cities Ajmer and Jaipur and the enroute towns and villages. The next phase of the project moves the source further away. The water will be drawn from River Chambal where the take off point is proposed to be Sewati Dharampura. Water from Chambal will be drawn from about 176 Kms. to Bisalpur dam and then further 130 Kms to reach the city.

The Bisalpur Water Supply Project

On 31 Mar 2004, the Japan Bank for International Cooperation (JBIC) signed agreements for eight projects worth JPY 125 billion (EUR 970 million) with the Government of India as an ODA loan package for fiscal year 2003. One of these is the Bisalpur Jaipur Water Supply Project consisting of the construction of a water supply system (360,000

TRANSMISSION SYSTEM FROM BISALPUR TO JAIPUR

m3 /day) for bringing water from a new surface water source to Jaipur city, the state capital of Rajasthan in northwestern India. This project is co-financed with the Asian Development Bank (ADB).

The Bisalpur-Jaipur Water Supply Project (BWSP) has been designed to deliver water from the existing Bisalpur Dam headworks up to Balawala on the south edge of Jaipur City to provide for the growing city's needs. The conceptual planning for the BWSP is to develop the Bisalpur water source in a phased manner in such a manner so as to meet the ever increasing water demands of Jaipur City keeping in view the future expansion of the city in coming years. Phase I of the BWSP has been designed to supply a total of 360 MLD of treated water to Jaipur City, plus 40 MLD of treated water for the rural areas. The Asian Development Bank together with PHED is executing the first Phase of the project as a part of the Rajasthan Urban Infrastructure Development Project (RUIDP) (ADB Loan Number 1647-IND). The total estimated cost of this part is Rs. 556 crores; of this amount, $60 million (about Rs. 270 crores) will be provided by the ADB and the remaining Rs. 286 crores will be provided by the State Government.

The transmission system portion of the Phase I works is comprised of:

- Supply and installation of new vertical turbine pumps in the existing pumping station at the Bisalpur headworks (420 mld).
- Supply and installation of 8.4 km of 2400 mm diameter MS raw water pipeline from Bisalpur up to Surajpura.
- Construction of a 400 mld potable water treatment plant at Surajpura.
- Construction of a 400 mld capacity clear water pumping station at Surajpura, with 360 mld to be delivered to Jaipur and 40 mld for Malapura.
- Supply and installation of 96.9 km of any one of the three size options 2100/2200/ 2300 mm diameter MS clear water pipeline (Bidder to select the most economic option taking into account the capital and operational cost for 15 years) from Surajpura up to the reservoir at Balawala.

The privatisation of water supply scheme in this case is on a contract basis. A single contract will be tendered for this work on a single-point responsibility basis. Under this contract the Contractor will be responsible for final design, supply, installation, construction, testing, commissioning, and operation and maintenance of the entire system. The same Contractor will be responsible to carry out the O&M activities for a five year period after the system has been commissioned. The works have been planned and designed in such a manner so as to facilitate a Phase II expansion program which is to be taken up in the future to provide a total of 540 MLD of treated water to Jaipur City plus 60 MLD to the rural areas and also to facilitate construction of the Stage II of the Project to achieve a total capacity of 1020 mld clear water production.

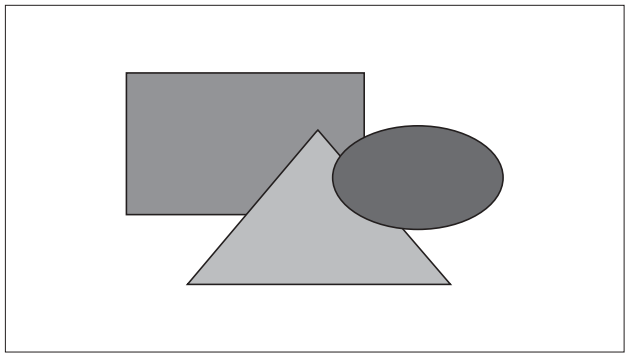
Water war over Bisalpur Dam

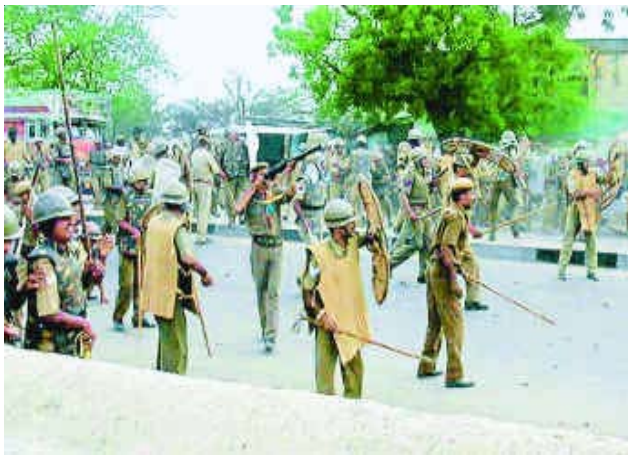
The farmers in surrounding the Bisalpur dam area in tonk district have been demanding water since the past few years from the Bisalpur dam built over the Banas river. The farmers want the water to be released the Todisagar dam, the main source of irrigation in these tehsils, which has gone dry. With the Todisagar dam going dry, the farmers do not have much choice but to ask for water available in the locality. The water from the Bisalpur dam have repeatedly been promised to them twice by none each govt. even the one in power at present.

The farmers demand that water from Bisalpur is being supplied to Ajmer and there are plans to supply the water to Jaipur city, Sawai Madhopur, Kishangarh and Beaver, so why not to the residents of Tonk. People from Unniara Tehsil are agitated because they have been displaced from the reservoir site and they are not being provided with water being collected at place they vacated.

The Bisalpur dam was conceived as an irrigation and drinking water scheme. Its command area extends up to parts of Bhilwara district also, and covers parts of Tonk, Boondi, Nasirabad, Ajmer town, Jaipur and Kekdi. For years, water has been politicised by the ruling parties despite underground water levels hitting new lows every year. Electoral promises relating to water and extending the command areas of existing dams were never fulfilled. Under the previous Congress regime too there was an agitation over the water problem, which the BJP then promised to address if it came to power.

One and a half years have gone by after the BJP came to power, but people's lives have not changed. Vasudev Sharma, CPI(M) State secretary, says that most areas in several districts have been declared part





of a "dark zone". The only option has been to divert water and to expand unrealistically the command area. Until five years ago, tubewells needed only 10 horsepower to pump out water; now even 20 HP is not enough. (Rajalakshmi, 2005)

Role of World Bank and the Asian Development Bank

World Bank is present in Rajasthan in the Rajasthan state water sector restructuring Project within the irrigation department of the state. The sector restructuring project is focussing mainly on private sector participation, interlinking of rivers, full cost recovery and doing away with the power and water subsidy given to the small farmers. The State water restructuring project is engaged actively in discussion with Madhya Pradesh for river linking and for providing surplus water to Rajasthan. Heavy loan investments have been put in by the World bank. The project is still in the planning phase unlike the Madhya Pradesh restructuring project which is already under way.

Asian Development Bank has set up Rajasthan Urban Infrastructure Development Project (RUIDP) and it is working along with PHED in 6 project cities of Rajasthan; Jaipur, Ajmer, Bikaner, Jodhpur, Udaipur and Kota. The total project amount is Rs. 1529 crore. Of which Rs. 546.99 crore is for Jaipur alone. Within this Water supply for Jaipur city is a part of the project which is being accomplished through the Bisalpur water supply project. The usual recipe of private sector participation, metering, full cost recovery is all part of the project.

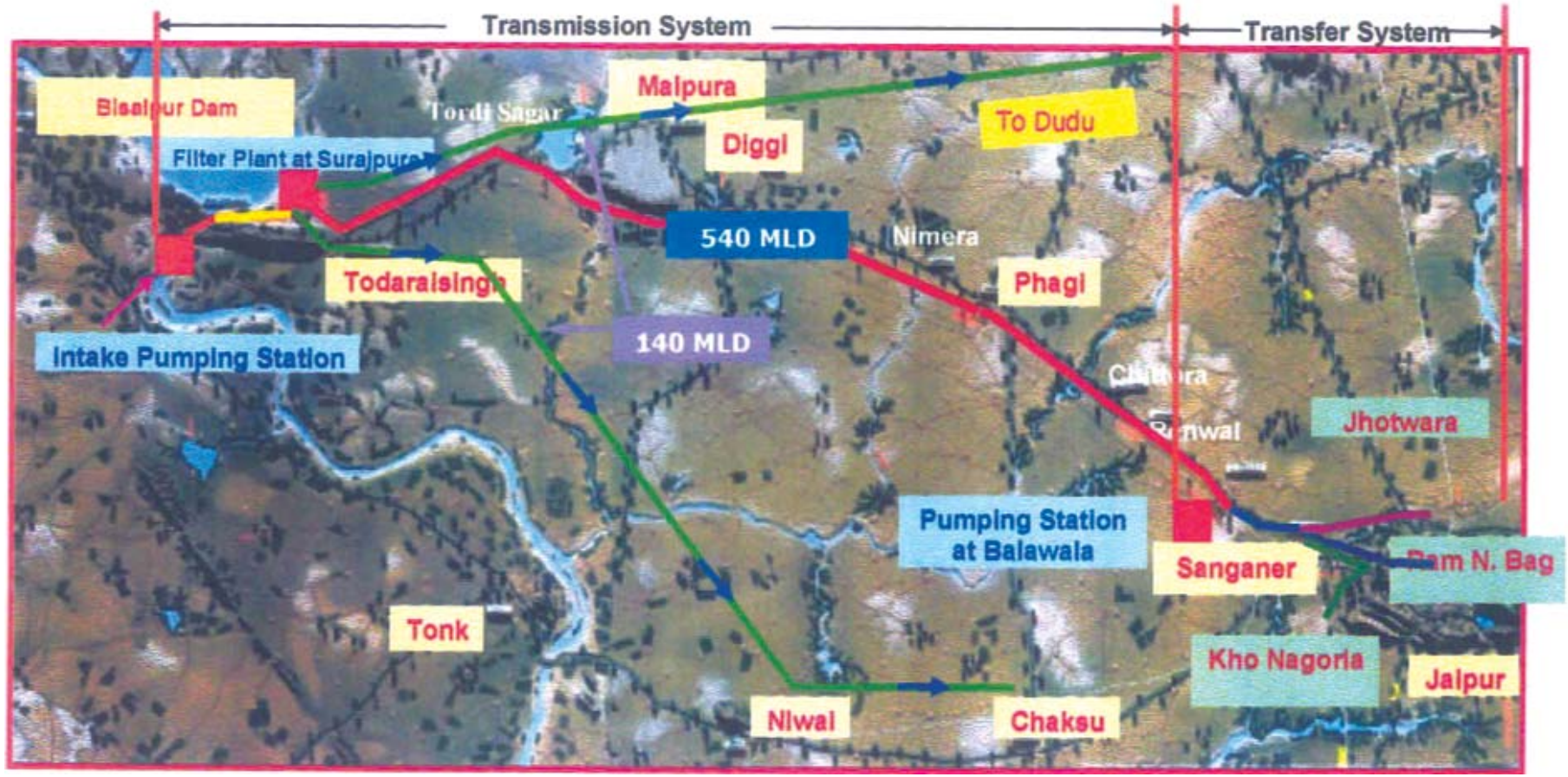
Where there is pressure on State governments against privatisation, privatisation is being done in a roundabout way. They are given contracts of service

and management, which makes it possible for them not to be directly accountable to the people." An obvious case is Rajasthan where water will be supplied to the towns of Jaipur and Ajmer from the Bisalpur dam. The ADB, which is involved in the project, has absolved itself of all responsibility by telling the affected communities living near the dam site that it is not funding the dam but only taking the water and supplying it to the cities. While the ADB encourages full cost recovery and managerial efficiency for water resources, experts in developing countries warn of the consequences for the poor, who are already squeezed by the vagaries of an inflationary economy.

Jaipur City

Source: RUIDP booklet

Bisalpur Water Project Site and Transmission System



Source: ADB website

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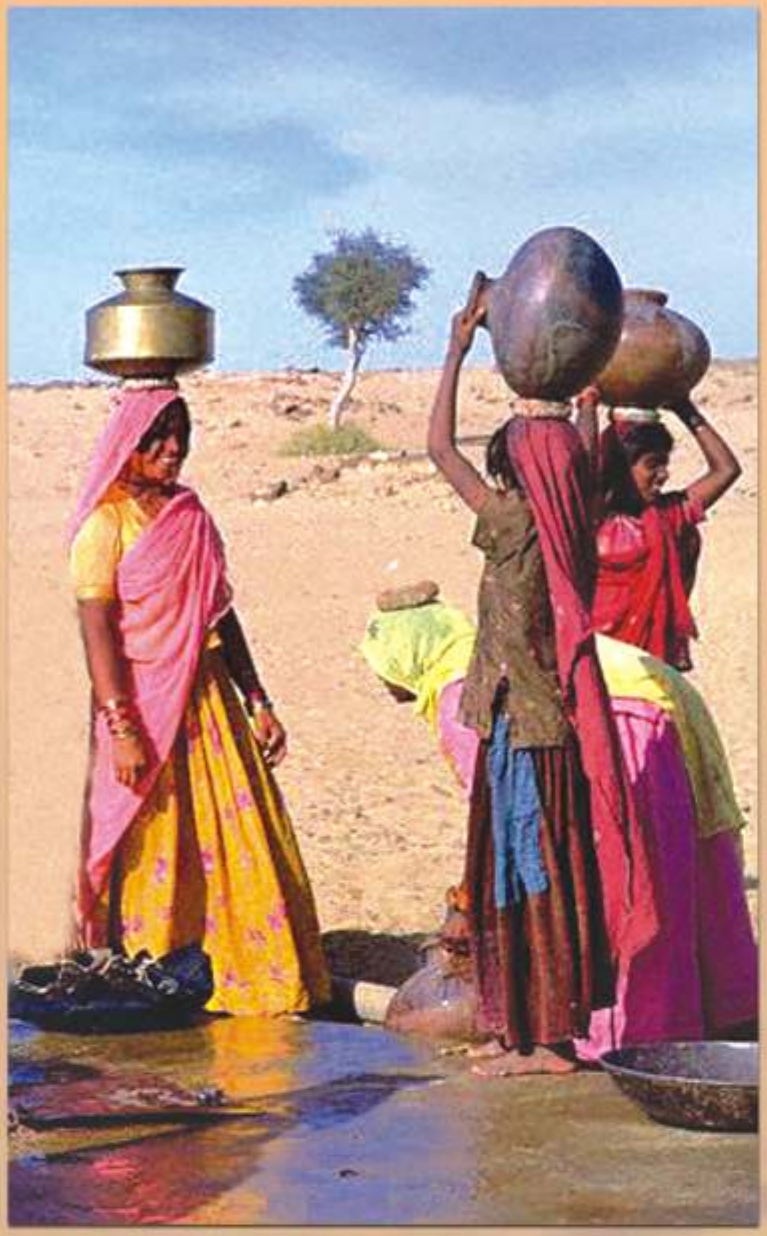

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