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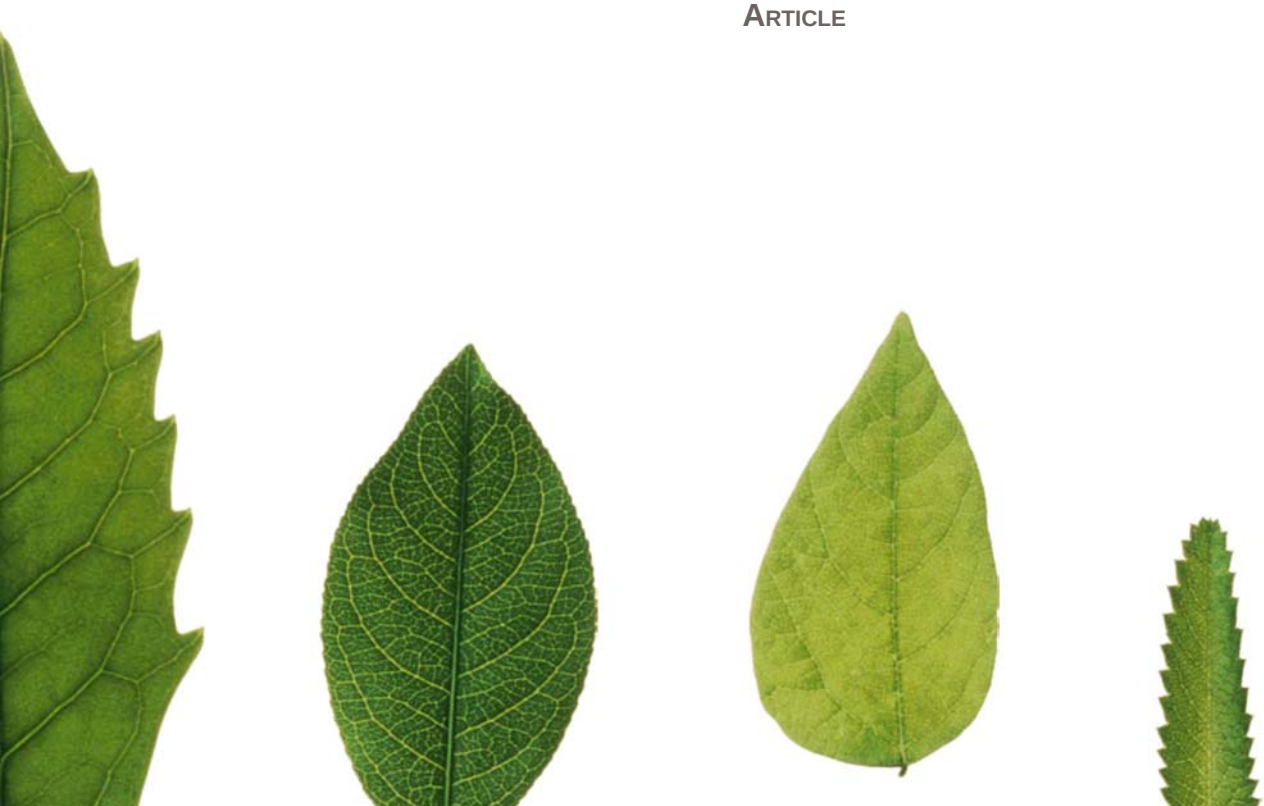

VOLUME
7/2

LEAD Journal (Law, Environment and Development Journal)
is a peer-reviewed academic publication based in New Delhi and London and jointly managed by the
School of Law, School of Oriental and African Studies (SOAS) - University of London
and the International Environmental Law Research Centre (IELRC).
LEAD is published at www.lead-journal.org
ISSN 1746-5893

The Managing Editor, LEAD Journal, c/o International Environmental Law Research Centre (IELRC), International Environment House II, 1F, 7 Chemin de Balexert, 1219 Châtelaine-Geneva, Switzerland, Tel/fax: + 41 (0)22 79 72 623, info@lead-journal.org

Article

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This document can be cited as
Eshwer Kale, 'Social Exclusion in Watershed Development: Evidence from the Indo-German Watershed Development Project in Maharashtra',
7/2 *Law, Environment and Development Journal* (2011), p. 95,
available at http://www.lead-journal.org/content/11095.pdf

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* Acknowledgments: I thank Prof. *Subhodh Wagle,* Dean School of Habitat Studies, at Tata Institute of Social Sciences Mumbai, and *Abraham Samual,* Senior Fellow with Society for Promoting Participatory Ecosystem Management, (SOPPECOM) Pune for their critical feedbacks and valuable inputs for this paper.

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1 INTRODUCTION

Social exclusion and inclusion are multi-dimensional terms and their definitions, meanings and connotations are context-dependent.[1] 'Social exclusion' as a concept has its origins in Europe, more specifically in France, and therefore the issues addressed in the social exclusion context were specific to Europe. Subsequently, the concept was introduced in India where it has primarily focused on inequalities and exploitation based on membership of particular social groups and is seen in terms of exclusionary processes based on caste, gender, tribe, and religious identities.[2] While research on caste as a social and economic institution has increased in India, inequalities and discrimination that the institution of caste gives rise to, and continues to perpetuate, never became central to social science research in India. The same is true at different levels for tribes, resource-poor people and religious minorities in India. Traditional anthropological and sociological research on tribes has remained apolitical and ahistorical and the exclusion of disadvantaged and resource-poor people and minorities in livelihood and resource governance has received little attention. It is only recently that the focus has started shifting towards a critical understanding of the processes of exclusion and marginalisation among tribes and resource-poor people.

While the Constitution of India has been categorical in its emphasis on addressing the issues of marginalised and excluded groups like the dalits, tribals, and other resource-poor groups through exclusive protective and developmental measures, the issue has not received requisite political visibility and academic rigor in the general development discourse. As a result the issues though crucial have always remained part of a general analysis of caste and class, and the perspectives of these communities have hardly received due recognition in the process of major policy formulation and analysis and the implementation of various protective and developmental measures initiated for them. There is therefore a need not only to recognise the perspectives of these resource-poor communities, but also to include them in the development process. In the absence of such an approach, most social science research in India has been unable to capture ground realities. In this background, this paper attempts to analyze the various dimensions of social exclusion of resource-poor groups in watershed programmes.

There is a considerable amount of watershed literature which describes community participation as a means or instrument for successful projects. Some studies view community participation as a value or normative concern leading to democratised decisionmaking in relation to resource management.[3] But community participation in watershed programmes is described loosely more in terms of a means to ensure better outcomes and the literature is silent on diverse and heterogeneous characteristics of village communities. In the village, a number of social groups exist including resource-rich and resource-poor, which include large, medium and marginal land owners, landless farmers, irrigated farmers and rain-fed farmers, further divided into castes and gender identities.

In this background, this paper examines the various aspects relating to the exclusion of resource-poor groups from watershed institutions and the newly generated economic benefits of watershed programmes. The paper attempts to understand and analyze the nature, scope and extent of social exclusion of resource-poor groups in watershed projects and to explore the exclusionary processes. The paper also aims to understand and study the various factors that are responsible for exclusion of resource-poor and to develop suggestions and views on effective inclusive strategies in watershed projects.

1 Hilary Silver, The Process of Social Exclusion: The Dynamics of an Evolving Concept (Providence, Rhode Island, USA: Department of Sociology, Brown University, Chronic Poverty Research Centre Working Paper 95, 2007).

2 K.M. Ziyauddin and Eswarappa Kasi, *Dimensions of Social Exclusion: Ethnographic Explorations* (Newcastle, UK: Cambridge Scholars Publishing, 2009).

3 K.J. Joy and Suhas Paranjape, *Watershed Development Review: Issues and Prospectus* (Bangalore: CISED, 2004).

2 METHODOLOGY

This section discusses key variables and the framework of data analysis, sample details, and various data collection tools used in the study.

2.1 Key Variables and Framework of Data-analysis

The theoretical debate and discussions on the various aspects of social exclusion and watershed development laid the foundation for the development of a concrete analytical framework for the study. This framework is important to study the various dimensions of social exclusion in the context of watershed development in India. The framework attempts to study two aspects of social exclusion: (a) the economic aspect pertaining to benefits generated by the watershed which deal with the materialistic aspect of poverty, and (b) the institutional aspect which is concerned with community participation and is considered as the non-materialistic aspect of poverty in various watershed institutions. The study developed two small sets of major issues or key variables. The first set of variables is about the key aspects of watershed programmes to study economic and institutional exclusion whereas the second set covers the major variables which are hypothesised as directly or indirectly causing exclusion of the people in the watershed community in general and resource-poor groups in particular.

The first set of variables includes two aspects: economic benefits and various opportunities for institutional community participation. At the institutional level, the study focused on understanding and investigating the membership pattern, attendance, level and quality of people's participation and forms of exclusion in various watershed institutions formed under the watershed project. At the economic level, the study focused on analyzing watershed benefits to people such as change in availability and access of water for drinking, livestock and irrigation purposes, fodder, fuel, labour work in village, credit, home assets and income (from agriculture, livestock and labour work).

In the second set of variables, explicit care is taken to include the variables covering economic and social aspects of exclusion to explore the tactics and processes leading to exclusion of the people in watershed programmes. The study focused on social exclusion in watershed programmes in the background of the respondent's landownership and availability of irrigation facilities as the major economic determinants whereas caste, gender, education, and the membership of, and close relations in, village institutions as well as watershed institutions as the major social factors.

2.2 Sampling Details

Many studies and reports describe the Indo-German Watershed Development Programme (hereafter IGWDP) as one of the most successful and effective models of watershed implementation. It is also well known as the torch bearer of participatory watershed development.[4] Therefore, IGWDP was selected for the study to examine the performance of the most successful watershed programmes on social exclusion issues. The Gadiwat IGWDP watershed project from the Aurangabad district of Marathwada region of the State of Maharashtra was selected on the basis of the observed caste and landownership heterogeneity in the watershed, as the key focus of the study is to understand the caste- and resource-based dynamics in access and use of natural resources and social exclusion issues. Moreover the study deliberately avoided focusing on extreme cases of successful and failed projects, because most of projects do not come under these categories. The Gadiwat IGWDP largely satisfied the requirements of the study as it fits in the category of an average rate of project implementation and success.

Fieldwork and data collection for the study was done in June and July 2010. All the households belonging to Scheduled Castes (Chambhar and Matang), Scheduled Tribes (Bhill), Other Backward Castes (Fakir and Nhavi), landless households and Village Watershed Committee (hereafter VWC) members were selected for the study. In order to give equal representation to various dominant castes (in relation to their population) in the village such as Maratha, Muslim (Non-Fakir), Banjara and Vanjari

4 Solveig Buhl and Rahul Sen, *A Preliminary Poverty Impact Assessments* (Delhi: Eschborn, 2006).

in the study sample, clustered sampling was adopted and 15 percent households from each of these four clusters of castes were randomly selected. From almost all the sampled households, a key male and a female member were interviewed. Therefore, the total study sample constituted 86 households and 150 respondents from the Gadiwat watershed.

2.3 Methods of Data Collection and Research Tools

The study followed the multi-method and multi-stakeholder approach; therefore both quantitative and qualitative methods of data collection were applied for primary data collection. Primary quantitative and qualitative data was collected through ***interviews, focused group discussions, in-depth interviews and transect-walk. S***econdary data on project details was collected through Project Implementing Agency (hereafter PIA) documents, such as the project feasibility report and mid-term evaluation reports, village-level records of the proceedings of various gram sabha and VWC meetings. Structured in-depth interviews were conducted with all 150 respondents as well as PIA personnel. Separate focused group discussions were conducted with people from landless, women, Scheduled Castes (hereafter SC)/ Scheduled Tribes (hereafter ST), and VWC groups.

3
THE PROJECT DETAILS

This section presents the major demographic, geographic and caste details of the study area and discusses the special features of IGWDP.

3.1 Profile of Gadiwat IGWDP

This sub-section discusses the details about area, location and accessibility of the watershed and provides details of demographic and caste composition in the watershed. The pattern of landownership and distribution as well as land-use pattern is also discussed.

3.1.1 Project Area, Location and Accessibility

The study-area comes under the taluka and district Aurangabad in the Marathwada region of the State of Maharashtra in India. The project area is approximately 25 kilometres from Aurangabad city and is connected to the main district road by partially *pakka* and *kachha* roads. The Gadiwat IGWDP covers around 1208.71 hectares of land spread across four villages, predominantly Gadiwat village (869.07 hectares) and the neighbouring villages Sahashramuli (294.24 hectares), Chincholi (11.40 hectares) and Ghardon Tanda (34.00 hectares). The study sample is primarily from Gadiwat village and also from Sahashramuli village. Gadiwat village consists of three main settlements: Gaothan, Banjara Tanda and Vanjari Tanda (also known as Banjara Tanda-2). Average rainfall in the area is 611.10 mm per annum.

3.1.2 Caste composition and Demographic Characters

According to the project feasibility report, there are 346 households in the Gadiwat watershed, consisting of 18 SC and four ST, six Other Backward Castes (hereafter OBC), 181 Nomadic Tribes, and 137 Open (Maratha and Muslim) households. But out of the recorded 18 SC households, only seven families were present in the village at the time of the study and the relatives of the remaining families from the village shared that they have permanently/ seasonally migrated to Aurangabad and other cities. The Gadiwat watershed has a total population of 1918 with a sex ratio of 873 females to 1045 males. In the watershed, there are Chambhar and Matang caste households from the SC category; all ST households belong to the Bhill community, whereas Fakir and Nhavi belong to the OBC category. The Nomadic Tribes category consists of Banjara and Vanjari caste households with few households from Gosavi caste, whereas Maratha and Muslim-Shaikh belong to the open or Other category.

3.1.3 Land Distribution and Land-use Pattern

The total watershed area is 1208.71 hectares; out of this, 63.95 hectares is uncultivable waste. Before the watershed project, about 8.80 hectares was perennially irrigated and 95.00 hectares was irrigated seasonally. As shared by people during the study, the seasonally irrigated area has increased significantly

by approximately 50 hectares, but there is no significant change in perennial irrigation. Rain-fed area is 745.20 hectares. Out of the total cultivable land, only 13.92 percent is irrigated area. Most of the land has shallow soil. 91.99 hectares of land is Gairan land (village commons).

Out of the total 346 families, 34 are landless,[5] 72 families own land up to one hectare, and 114 families own between one to two hectares of land. In the watershed, 98 families own two to four hectares of land, 25 families own four to eight hectares, and three families hold more than eight hectares. The landholding pattern indicates reasonably broad distribution of privately-owned land among cultivators. The average gross landholding per household is 2.64 hectares.

3.2 Special Features of IGWDP

IGWDP is initiated by the Watershed Organisation Trust, a pioneering non-governmental organisation in Maharashtra. The guiding spirit behind the programme is Fr. Hermann Bacher. The IGWDP, as pointed out by Solveig Buhl (2006),[6] is well known as the torch bearer of participatory watershed development. Using the lessons learned from IGWDP, the National Bank for Agriculture and Rural Development (NABARD) constituted the Watershed Development Fund and participatory watershed projects which are being implemented in 11 states, covering 86 districts of the country. At present IGWDP is being replicated in five states of India, that is, Maharashtra, Andhra Pradesh, Madhya Pradesh, Rajasthan, and Jharkhand.[7] IGWDP's broad goal is to rehabilitate watersheds for regeneration of natural resources and to develop the capacities of the watershed community to take responsibility for the integrated development of watershed-based social, economic, and natural resources.[8]

The primary objective of IGWDP is to alleviate poverty through regenerating the environment with active participation of the watershed community. Therefore, the participation of people in the programme is a key component.

IGWDP has many unique features compared to other types of watershed programmes and schemes. IGWDP follows a ridge-to-valley approach, where 100 percent land of the demarcated watershed receives various land, drainage, and biomass based treatments focusing on soil and water conservation. The scope of the project area depends upon the watershed area or catchment area of a particular location. Hence, in IGWDP projects, the village is not the unit of area; it depends on the catchment area. Therefore the project may include multiple villages under a single catchment area. The programme also focuses on increasing livelihood options in the watershed community, especially focusing on resource-poor communities through other income generation activities which are known as watershed plus activities in the programme.

Strong institutional support at the watershed level is another major feature of IGWDP. Watershed-based VWC is the primary stakeholder institution of the project. The project amount directly gets transferred to the VWC's bank account and the VWC disperses the amount for watershed treatments. Compulsory *Shramadan (*offering voluntary labour), exposure visits of people to successful projects, and net planning (planning interventions with the farmers on their own land) are other major features of the programme.

4
ANALYSIS AND DISCUSSION

The analysis of the study is mainly divided into two sections. The first section discusses the nature and scope of institutional exclusion whereas the nature and scope of economic exclusion of resource-poor groups is discussed in the second section.

5 This is the number reported in the Project Feasibility Report, which is based on baseline survey made by the project implementing agency.

6 *See* Buhl and Sen, note 4 above.

7 *See* Watershed Organisation Trust website, available at http://www.wotr.org/Fact_Sheet.html.

8 Lobo Crispino, Indo German Watershed Development Program: Macro Management for Micro Cooperation (Paper presented at DSE / ATSAF Workshop, Berlin, Germany, 6-10 May 1996), available at http://www.wotr.org/upload/16.IGWDP-MACRO-MANAGEMENT%20FOR%20MICRO%20COOPERATION.pdf.

4.1 Nature and Scope of Institutional Exclusion

As the watershed community represents all the adult members of the watershed, the village assembly (or Gramsabha) is the supreme decisionmaking body in the watershed project. VWC, women Self Help Groups and Samyukt Mahila Samiti are the other major local institutions formed in the Gadiwat watershed. This section discusses the nature of inclusion, and the scope and quality of participation in these local institutions during the different phases of the project as well as overall.

4.1.1 Village Assembly or Gramsabha

The participation of the people in the various phases of the watershed project is considered as the key to the success of the project. According to IGWDP guidelines,[9] the Gramsabha is the ultimate decisionmaking body and it should meet quarterly (once in three months) under the watershed project. It is expected that all major decisions will be taken in the Gramsabha meetings, which will be attended by all adult members in the watershed area, across caste and gender.

Out of total 150 respondents, 40.7 percent reported that they have attended watershed Gramsabhas throughout the different phases of the project. In comparison to men's attendance (57 percent), women's attendance (22.5 percent) in the Gramsabha is found to be poor. The education status of the respondents positively influences their attendance in the Gramsabha. Out of the total illiterate respondents, only 21.1 percent attended the Gramsabha whereas among literate respondents, the attendance percentage is more than 60 percent. The data shows that although literacy status has significantly influenced the respondents' attendance in the Gramsabha, the level of education among literate respondents has not significantly influenced their attendance.

4.1.1.1 Participation in Gramsabha and Landholding Status and Caste

Land is an important resource in rural socio-economic life, which has linkages with socio-political and economic opportunities and participation in various institutions. Figure 4.1 clearly shows that the attendance percentage of landholding respondents (47.15 percent) is four times higher than the percentage of landless respondents' attendance in Gramsabha (11.11 percent). This shows that although watershed projects try to reach out to the resource-poor (landless) through various livelihood options (watershed plus activities), the attendance of the landless in Gramsabhas in Gadiwat village was very poor.

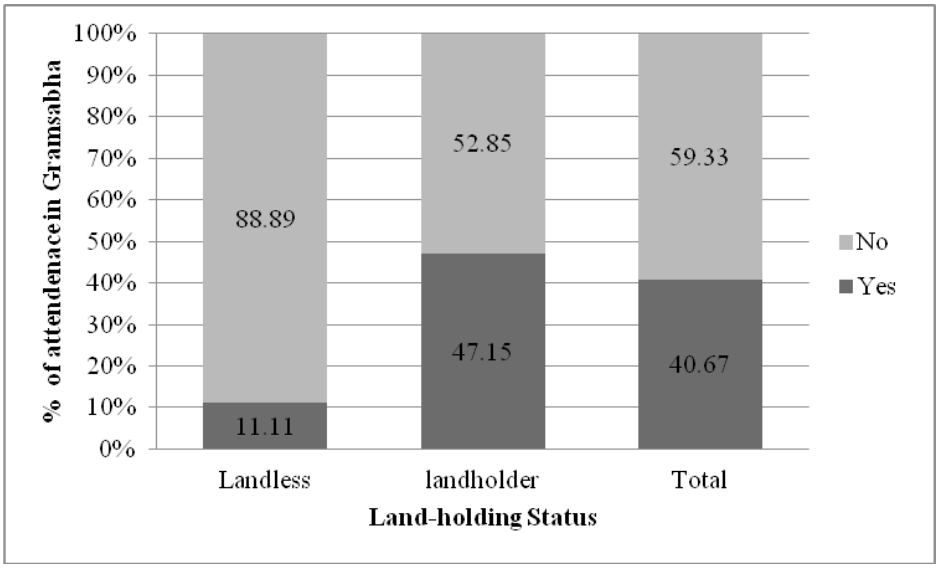


Figure 4.1: Landholding Status and Attendance in Gramsabha

9 *See* NABARD, Guidelines on Participation in Indo-German Watershed Development Programme,, available at http://www.nabard.org/farm_sector/devp_maha.asp.

The caste system plays a significant role in social hierarchy and individual's opportunities. The study attempted to explore whether the respondents' caste has any influence or impact on their attendance in Gramsabha. The significant observation is that respondents from Bhill (ST), Fakir and Nhavi (OBC) castes never attended Gramsabha throughout the watershed project. The people from Maratha, Banjara, and Vanjari castes attended more Gramsabha meetings compared to members of other castes.

4.1.1.2 Level and Quality of Participation in Gramsabha

There is a general trend among Government Organisations, NGOs, and PIAs to encourage participation of rural people only at the project implementation phase, ignoring their planning, monitoring, and supervisory abilities and skills. The study highlights the variations in people's participation during the various phases of the Gadiwat project. Out of 61 respondents who reported their attendance in Gramsabhas, most (91.80 percent) attended the Gramsabha during the initial capacity building phase) when activities such as *Shramadan* and exposure visits to other villages took place. According to the available data, this attendance percentage reduced to around 50 percent[10] during the full implementation phase, and further reduced to 13 percent during the post-project phase where operation and maintenance, Watershed Development Fund and project sustainability related issues are the major concerns.

Poor attendance in the Gramsabhas is related to the caste and gender of the respondents. The quality of participation in the decisionmaking processes is also at a much lower level in the Gramsabhas. Only two women out of 16 and 20 men out of 45 who attended Gramsabhas reported that they voluntarily raised some issues. Out of these respondents, only 10 felt that their points were taken seriously in the discussions.

Thus the study concluded that although the project guidelines mention that a Gramsabha should be arranged quarterly during the five-year project period, the actual reported number of Gramsabhas is very low across the different project phases. Most of the respondents attended the Gramsabha not more than four times, mostly during the project initiation and implementation phase, and the decisionmaking process in the Gramsabhas is male-dominated.

4.1.2 Village Watershed Committee (VWC)

As mentioned in various watershed programme guidelines and project designs, VWCs or Village Development Committees play a central role in planning, implementation, management, monitoring, financial control and maintenance of watershed interventions.[11] This key watershed institution is also expected to make conscious efforts to include villagers, make community rules for sustainable resource use and take care of equitable distribution of watershed benefits.

4.1.2.1 Formation and Composition of VWC

As per IGWDP guidelines, a VWC should be formed in the Gramsabha where at least 70 percent of all households are present, focusing on women and people from various hamlets in the watershed area. But the study shows that the percentage of respondents attending the Gramsabhas in the Gadiwat watershed were not more than 40 percent.

The Gadiwat VWC which is registered and known as the *'Godavari Panlot Samiti'* has 17 members. It is a gender-balanced body with 10 men and seven women from the watershed representing various hamlets. As per IGWDP guidelines, at least 30

10 Many watershed project guidelines emphasise planning interventions with the indigenous knowledge and skills of local peoples about resource planning.

11 *See* Government of India, Common Guidelines for Watershed Development Projects (2008), available at http://dolr.nic.in/CommonGuidelines2008.pdf. *See also* Department of Land Resources, Ministry of Rural Development, Government of India, 'From Hariyali to Niranchal – Report of the Technical Committee on Watershed Programmes in India' (2006), available at http://www.wassan.org/Policy%20space/Parthasarathy%20Committee.pdf.

percent VWC members should be women. The representation of women in the Gadiwat VWC is found to be higher. All VWC members reported that they are selected through the Gramsabha. Figure 4.2 shows who suggested and nominated the names of these individuals in the Gramsabha for VWC membership. All the VWC members reported that their names were suggested by the president (Node 'I' at the centre) and the vice-president (Node 'H') of the VWC who are key village leaders from the Maratha and Muslim-Shaikh castes respectively. The names of two members were suggested by a woman from the Banjara caste (Node 'P') who is active in the watershed project and is also the president of the Samyukt Mahila Samiti.

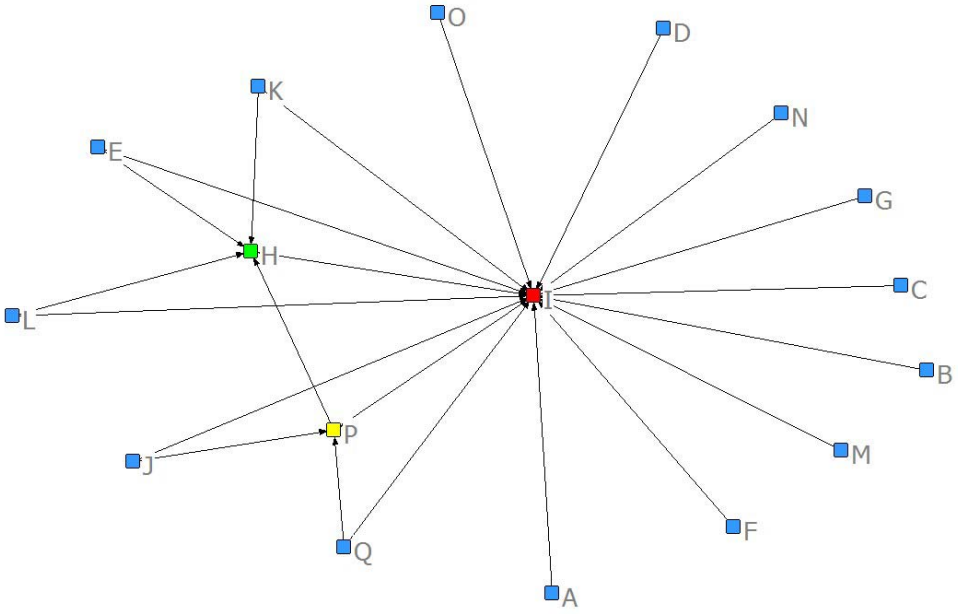


Figure 4.2: Network of Key Village Leaders in VWC

According to almost all the VWC members, the president and the vice-president of the VWC run financial matters. They are also the major beneficiaries of the watershed project as they are the big landowners and politically powerful persons in the village.

The VWC is expected to represent and include all the socio-economic groups such as large, small and marginal landowners and members of Scheduled Castes, Scheduled Tribes and backward classes. However, in practice the Gadiwat VWC comprises of all landlords who own more than two hectares of irrigated land. Landless and rain-fed farmers are not represented in the VWC. Bhill, Gosavi, Fakir and Matang castes, which are the minority resource-poor groups in the watershed, are also not represented. Interestingly, out of the total 17 VWC members, 16 members are either members of other village institutions (Gram Panchayat or village cooperatives or both) or their close relatives.

4.1.2.2 Participation of VWC Members in VWC Meetings

The IGWDP guidelines mention that the VWC should meet once in a fortnight to review the work done, to plan for the future, and to solve issues related to project activities. However, in practice, as per the VWC proceedings, only 65 VWC meetings have been conducted till date. As shown in figure 4.3, only two male members reported that they have attended VWC meetings more than 25 times (these

members are the VWC office-bearers – the president and the vicepresident). The figure also shows that two members (one male and female) never attended any of the VWC meetings and the rest of the members attended one to 25 VWC meetings.

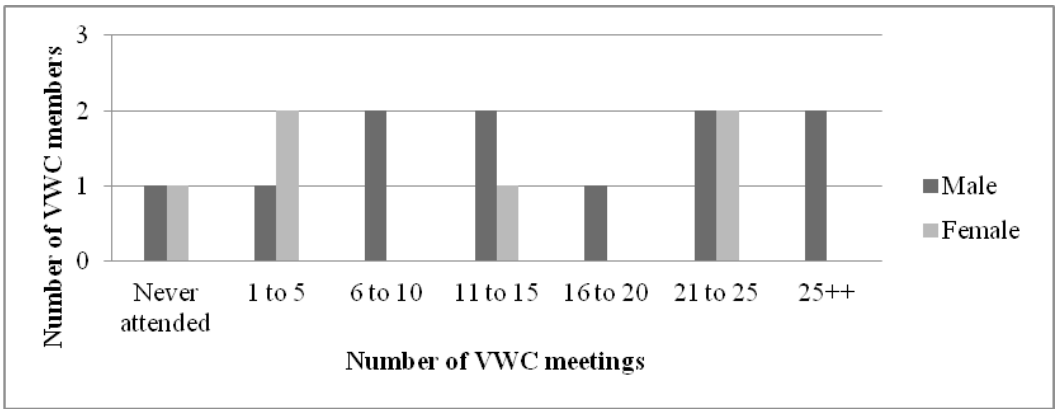


Figure 4.3: Sex-wise Attendance in VWC Meetings

Most of the VWC members attended meetings during the initial capacity building phase whereas most of the VWC meetings during the final implementation phase were attended by VWC office bearers. No VWC meetings were conducted during the post-project phase.

4.1.3 Self Help Groups

The formation of Self Help Groups (hereafter SHGs) for women is a precondition in all watershed programmes, irrespective of the PIA type or mode of implementation. The IGWDP guidelines also note that women from at least 30 percent of the households in the village should belong to SHGs, and SHGs should initially work as savings and credit organisations which should eventually become a partner in the watershed development activities and decisionmaking bodies.

4.1.3.1 SHG Membership and Caste and Landholding Status

Out of the total 71 women in the study sample, 33 women (46.5 percent) reported that they are members of SHGs of the watershed project. Even though the percentage of women's participation in SHGs seems fairly good (compared to at least 30 percent mentioned in the IGWDP guidelines), women from resource-poor castes are not part of these SHGs. None of the women from Bhill and Nhavi castes are members of SHGs and participation of women from Gosavi and Maratha castes is less than women from Banjara and Vanjari castes. It is also interesting to note that the data does not show any direct relationship between women's age group and educational status with their involvement in SHGs.

It is remarkable to note that the women respondents' landholding ownership constitutes the major factor determining their involvement in SHGs. Ideally, SHGs are conceptualised as a tool for the institutional inclusion of the resource-poor in watershed projects.

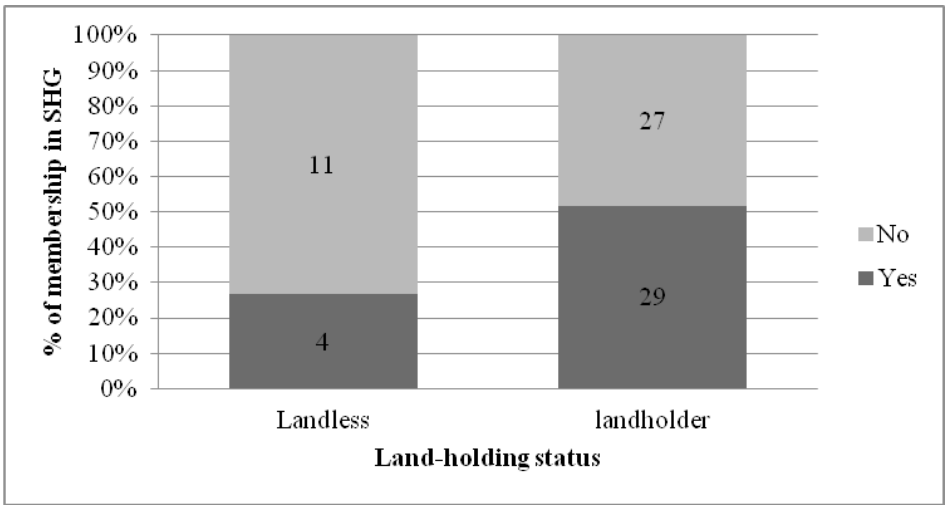


Figure 4.4: Landholding Status and Women's Membership in SHG

But in the Gadiwat watershed, as figure 4.4 shows, out of 15 women from landless households, only four women (26.70 percent) reported their membership in the SHG, whereas out of 38 women from landholder households, 29 women (51.80 percent) were members of the SHG.

4.1.3.2 Village Institution's Influence on SHG membership

An interesting observation about the Gadiwat watershed is that out of a total of 33 women respondents, 58 percent who reported their membership in the SHG are close relatives of members of village institutions. These women have close relatives either in the Gram Panchayat or village cooperatives (see figure 4.5). But as shown in figure 4.6, out of 38 women who reported not having SHG membership, only 24 percent women reported that they have close relatives in village institutions and the remaining 76 percent of non-SHG members do not have any close relatives in other village institutions. Also, all seven women who are members of the VWC are also members of the SHG.

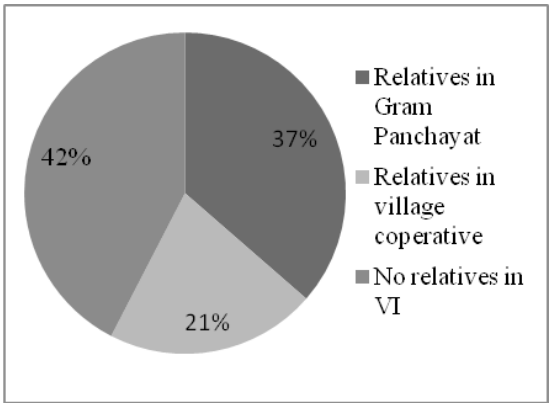


Figure 4.5: SHG Women's Relationship with Village Institution

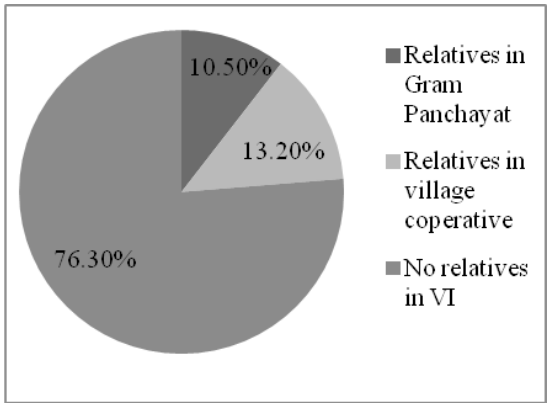


Figure 4.6: Non-SHG Women's Relationship with Village Institution

This shows that although on paper SHGs provide representation and institutional space for the resource-poor and disadvantaged sections of society, women from resource-poor groups, such as the landless and members of Bhill and Gosavi castes, are either excluded or unfavourably included in SHGs because women from these categories who are members of SHGs neither occupy posts of SHG office-bearers nor attend any training programs for the SHG.

4.1.4 Participation in Samyukt Mahila Samiti

In IGWDP, all women SHGs in the watershed are expected to federate into an apex body to be called the *Samyukt Mahila Samiti* (hereafter SMS). The SMS is responsible for coordinating the activities of SHGs and channelizing resources pertaining to women's developmental activities. In the village, the president and vice-president of the SMS are from the Banjara and Vanjari castes respectively, and both are members of the VWC as well. The wife of the VWC member from the Maratha caste is the secretary of the VWC. SMS is not independently active in the village and most of its work is influenced and managed by the president and vice-president of the VWC. Though SMS is not functioning well, still it is a major institution because women development funds, which amount to Rs. 2.5 lakh, are in its bank account. The office-bearers of the SMS shared that the VWC president handles these matters and they do not know much about financial issues.

4.2 Exclusion from Activities Strengthening Institutional Inclusion

Community participation and awareness are integral parts of the watershed approach. IGWDP envisages various activities and strategies for community participation and awareness. The major activities include exposure visits of local people to successful watersheds and *Shramadan* (offering voluntary labour with spirit of village unity) for watershed work.

4.2.1 Exposure Visit

An exposure visit is an essential component of the IGWDP guidelines. In the initial capacity building phase of the project, exposure visits introduce beginners to the processes of watershed development in successful watershed projects. Generally, it is planned after the first successful *Shramadan* in the village. IGWDP guidelines describe that ideally one person from each family should go for the exposure visit and landless people should also be included in the visit. The financial provision made for exposure visit is such that the project contributes 50 percent of the total cost incurred for the general community and 75 percent for the SC/ST communities, the landless and women.

4.2.1.1 Exposure Visit and Gender and Literacy status

Table 4.1 shows that out of 150 respondents, around 40 percent respondents reported their participation in the exposure visit. More than 50 percent of the male respondents participated in the exposure visit. Despite the provision of 75 percent contribution of expenses for the exposure visit by the project for women, only 21.6 percent women respondents reported their participation.

Table 4.1: Respondents' Sex-wise Participation in Exposure Visit

Sex	Participated in Exposure visit		Total F (per cent)
	Yes F (per cent)	No F (per cent)	
Male	41(51.9)	38(48.1)	79(100)
Female	21(21.6)	50(70.4)	71(100)
Total	62(41.3)	88(58.7)	150(100)

Insofar as the literacy status of the respondents is concerned, figure 4.7 shows that out of 65 literate respondents, more than 50 percent respondents participated in the exposure visit whereas out of 85 illiterate respondents, 32.90 percent respondents reported their participation in the exposure visit. It clearly shows that the literacy status of the respondents positively influenced their participation in the exposure visit.

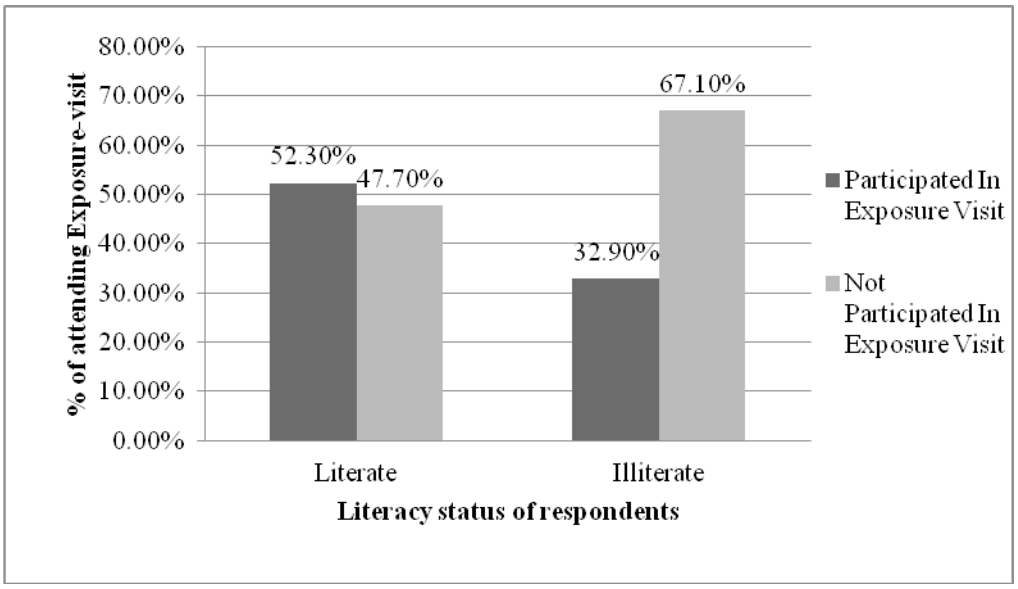


Figure 4.7: Exposure Visit and Education Status

4.2.1.2 Exposure Visit and Landholding Status and Caste

The study further analyzed the respondents' participation in the exposure visit based on their landholding status. Surprisingly, data shows that out of 27 landless respondents, only one respondent participated in the exposure visit, whereas almost 50 percent of landowning respondents reported their participation. This clearly shows that despite allocation of 75 percent expenses, landless people did not participate in the exposure visit. The study tried to understand the reasons/issues relating to landless people's non-participation. Most of the landless respondents reported that they were not informed and they did not have any idea about the exposure visit whereas others did not participate either due to work pressure or lack of money to meet the exposure visit expenses.

At the level of respondent's inclusion across caste, more than 50 percent of respondents from the Maratha, Banjara and Vanjari castes (the dominant castes in the village) reported participation in the exposure visit, whereas no respondent from the Bhill, Gosavi, Fakir, and Nhavi communities reported their participation in exposure visits. It clearly shows that the people from resource-poor castes were excluded from the exposure visit.

4.2.2 Shramadan

Shramadan or voluntary labour work is the major component of various watershed projects for building unity in the community and a sense of ownership among people about the project. In IGWDP, there are mainly two types of provisions made for *Shramadan*. The first provision is that 16 percent of overall unskilled labour cost of the project has to be contributed by the watershed community, excluding landless and poor single-parent families. Second, four days of *Shramadan* per family is expected from at least 70 percent of the households during the initial capacity building phase before the commencement of the project implementation phase.[12]

Out of 150 respondents, 73.3 percent reported that they offered *Shramadan*. Even the involvement of women respondents in *Shramadan* is observed at good level (71.8 percent). Across landownership status, more than 70 percent of respondents from both categories, landless and landowners, reported

12 NABARD, Indo German Watershed Development Program, available at http://www.nabard.org/development&promotional/watersheddevelopment.asp.

participation in *Shramadan*. Interestingly, although there was no or poor involvement of resource-poor castes (Bhill, Matang, Chambhar, Nhavi and Fakir) in exposure visits, their participation is much higher in *Shramadan*. This implies that while resource-poor people were excluded from exposure visits, at the same time, they were fully involved in *Shramadan*.

4.3 Economic/ Benefit Level Exclusion

Social exclusion has both material and non-material aspects. This section discusses the material aspects of social exclusion and focuses on the nature and scope of the economic benefits generated by the watershed across different community groups.

4.3.1 Soil and Water Conservation Related Benefits

From the inception of the watershed approach, soil and water conservation is seen as the major benefit in all type of watershed programmes. The priority and scope of soil and water conservation treatments differ from programme to programme. Therefore, to balance the benefits of both soil and water conservation, ridge-to-valley treatment approach is accepted and promoted in IGWDP.

In the Gadiwat watershed, three main types of on-farm treatments are done on the farmer's land through the project: (a) farm-bunding to arrest eroding soil and rain-water, (b) application of grass-seeds (*Styalo-hamata*) on the constructed bunds for the purpose of fodder development, and (c) distribution of fruit trees for irrigated as well as rain-fed farmers. Out of 74 landholder households, 15 households (20.3 percent) benefited only from farm bunding treatment on their land, 31 households (41.9 percent) benefited from two types of treatments (farm bunding and grass-seeding), and 23 households (31.1 percent) benefited from all three types of treatments.

4.3.1.1 Treatment Benefits and Membership in Village Institutions

Not much caste-based discrimination is seen in the level of distribution of these treatments. At the same time, horticulture activity (distribution and plantation of fruit tree plants) only benefits respondents who own an irrigation source. The study further tried to understand the details of the beneficiaries of the treatment in the background of their membership of village institutions. The study found that respondents' membership in village institutions played a significant role in the receipt of multiple benefits of these treatments.

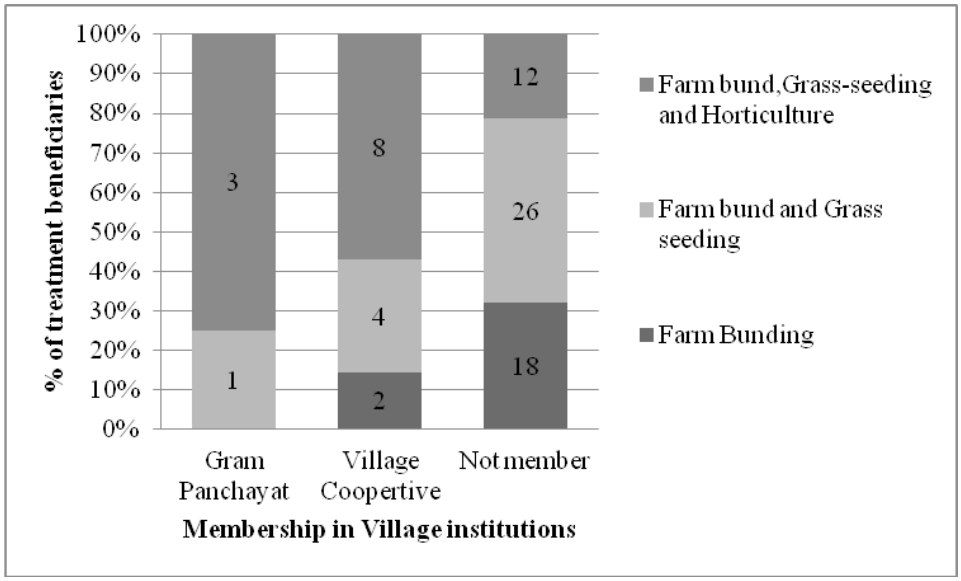


Figure 4.8: Membership in Village Institutions and Watershed Treatment Benefits

As shown in figure 4.8, out of four landowner respondents who are members of the Gram Panchayat, three members benefited from all three treatments, while the remaining one member benefited from two treatments. Out of 14 respondents who reported being village cooperative members, eight respondents (57.1 percent) benefited from all three treatments, whereas among respondents who are neither members of the Gram Panchayat nor village cooperatives, only 12 respondents (21.4 percent) from all three treatments (see figure 4.8). This clearly shows that respondents' membership in village institutions certainly increased the possibility of multiple benefits of watershed treatments in the Gadiwat watershed.

4.3.2 Watershed Treatment Generated Benefits

Watershed treatments are mainly targeted towards soil and water conservation. The study also discussed the impacts of these treatments on land and water related benefits to farmers. Table 4.2 shows that out of 55 irrigated farmers, 49.1 percent farmers reported that their uncultivable small patches of land have been converted into cultivable land due to project treatments, but very few non-irrigated farmers (21.1 percent of total 19 non-irrigated farmers) reported this change in uncultivable land.

Table 4.2: Irrigation Facility and Benefits of Soil and Water Conservation

Types of Benefit	Irrigated Farmers N = 55	Non-irrigated FarmersN = 19
Increase in cultivable land	27 (49.1)	4 (21.1)
Increase in soil moisture	45 (81.8)	15 (78.9)
Increase in area under irrigation	32 (58.2)	—-
Increase in water for irrigation	43 (78.2)	—-
Increase in groundwater level	43 (78.2)	—-

The respondents from both irrigated and non-irrigated category reported a remarkable increase in soil moisture after the farm-based treatments. About water availability, most of the irrigated respondents reported increase in area under irrigation, water for irrigation, and groundwater level.

As the availability of irrigation facility is the major factor in cultivation, most benefits of increased water availability in the village are captured by farmers who own irrigation sources. Increase in soil moisture is the only major benefit of the watershed treatments that is reported by non-irrigated farmers.

4.3.3 Change in Labour Work Availability and Migration

During the entire project implementation phase (2004-2008), sufficient labour work was available on the watershed works in the village. During this period, very few families migrated to cut sugarcane. As labour wage rates on watersheds were based on brass or unit of work for farm bunding, there were no discrimination in the wage rate for men and women. But once the implementation work was over, labourers could not find assured labour options in the village. In addition, the labour rates in the village are also much lower than city-based work and other occupations. Therefore, labourers have been migrating for sugarcane-cutting to other regions of the State of Maharashtra and for construction work in Aurangabad city.

4.3.4 Change in Availability of Drinking Water and Fuel

Watershed projects which promote water harvesting through various treatments, directly or indirectly, are expected to increase the water level in drinking water wells. Out of the total women in the study sample, very few respondents (16.90 percent) reported an increase in drinking water availability. According to most of the women, there is no change in time and labour required for accessing drinking water before and after project implementation.

Since there is no tap system or pipe-line within Gadiwat Gaothan and various hamlets, most people still access water from the village's common and private wells. The VWC decided to implement a drinking water scheme in Gaothan using the women development fund under the project (Rs.2.5 lakh) by installing and connecting four small water tanks at various places with pipelines from the common well. Tanks were built and placed in the village. But VWC members shared that as it was only benefiting Gaothan and excluding other hamlets, the politicians from those hamlets opposed the plan and stopped it. So the situation of access to drinking water is the same as before the watershed project. Women from the Bhill caste shared that they have to walk one kilometre in winter and rainy seasons to the neighbouring wells of farmers for drinking water, but in summer they have to spend two-three hours to fetch water. This situation has persisted during the pre- and post-project situation.

Most of the respondents reported an increase in water availability for livestock in the village. At the same time, most of the landless respondents had no direct use for this increased water availability because they own very few animals and most of them have sold their cattle due to the ban on open grazing, which was imposed during the initial phase of the project.

About availability of fuel (firewood), 60 percent of the respondents from Bhill, Gosavi, Matang, Nhavi, Fakir castes and the landless respondents reported a severe decrease and the remaining 40 percent reported minor decrease in firewood availability after the watershed projects, whereas only 30 percent landholding respondents reported a decrease in firewood. According to the landless and women respondents, the firewood issue is related to the ban on tree felling in common and forest land, which was imposed by the VWC during the capacity building phase. The VWC also formally formed the Joint Forest Management (hereafter JFM) committee, which prevents tree cutting in forest land. Few respondents also reported that the JFM committee and VWC had punished some persons for violating this rule.

During the period of the ban, the affected people were forced to use kerosene stoves. The women from the Bhill community generally cut and collect branches of wild and *Neem* trees from the village commons and forest lands and store them as firewood for the rainy season. But due to *kurhadbandi* (or ban on tree cutting), they were forced to collect cow/animal dung from the village commons and store it for fuel during the rainy season. This was a time- and labour-consuming activity. The study concluded that landless people suffered a lot compared to landholding respondents due to imposition of *kurhadbandi*.

4.3.5 Livestock and Fodder Availability

More than 50 percent of the respondents from almost all castes reported an increase in fodder availability in the village after the watershed projects. There are three reasons for the increase in fodder availability: (a) the grass seeding done on farm bunds on the land, (b) increase in crop-residue, and (c) grass/fodder increased due to *charaibandi* (or ban on open grazing) imposed during the initial capacity building phase (which was violated by many people after two years). Mostly, irrigated landholder farmers benefited from the availability of increased fodder. Landless people sold most of their goats due to *charaibandi* in the village commons and forest land (see Table 4.3).

Table 4.3: Changes in Livestock Pre- and Post-Watershed Project

Type of Animal	Total No. before Project	Total No. after Project	% of increase	% of decrease
Goats/Sheep	167	97	-	41.92
Bullocks	108	96	-	11.11
Local cows	60	46	-	23.33
Hybrid cows	39	47	20.51	-
Buffalos	2	11	450.00	-

As seen in Table 4.3, a sharp decline of 41.92 percent in the number of goats and 23.33 percent decrease in the number of local cows owned by 86 households is seen after the project; the landless people mostly owned goats. No significant change is observed in the number of bullocks but there is a drastic increase in the number of hybrid cows and buffalos, which are all owned by irrigated landholder respondents. No doubt, fodder availability and livestock number of milch animals increased after the watershed project but it mostly benefited irrigated landholders in the watershed.

4.3.6 Income-Level Benefits

One of the major components of various watershed guidelines is poverty alleviation.[13] Increase in agriculture production, livestock, and labour work are the major sources of increase in the income levels of watershed beneficiaries. Also the whole gamut of Watershed-Plus activities, which focussed extensively on livelihood enhancement of resource-poor people (especially the landless) by facilitating them through SHGs and credit supply,[14] is expected to increase their income level. Along with poverty alleviation, many watershed project guidelines and various committee reports[15] also mention the equity concerns in the watersheds, indicating the need to improve the economic and social conditions of the resource-poor and disadvantaged sections in the watershed community. However, while analysing the equitable nature of the outcome of the watershed projects, the limitations of the watershed approach must be recognised.

With this background, the next section analyzes the change in income of the people in the pre- and post-project scenario and also explains this change in the background of equity across landholding status, which is also deeply rooted in the caste system.

4.3.6.1 Change in Income

The study analyzed the composite annual gross income of each household by adding together the annual gross income from agriculture production, livestock and labour work in the pre- and post-project scenario. The analysis of income was restricted to these three sources because the changes in their returns are very closely attributable to watershed interventions and their impacts. The study does not claim that the changes or increase in the income of the respondents from these three sources is solely as a result of watershed project interventions. There are other market, credit, and technology related factors which directly or indirectly influence the income from agriculture, livestock and labour work. Here the study only claims that watershed interventions and heavy investment during the project are also important factors which influence the income of the people. Hence, the study analyzes the income level data in pre- and post-watershed project scenario.

The gross income (the sum of each household's gross annual income from the above mentioned three sources) has significantly increased after the watershed project. The sum of all households' annual gross income before the project was Rupees 43,59,200/- whereas the sum of annual income of the same households after the project is Rupees 72, 29,350/-. So there is an almost 66 percent increase in the sum of total income of all the sampled households in comparison to the pre-watershed scenario. This is a very good indication that in general, the income level of the villagers has increased significantly after the project, which is closely linked to the poverty alleviation objective of the project.

4.3.6.2 Equity and Income Distribution

The study further attempted to understand the increase in income of households across their landholdings in the pre- and post-project scenario.

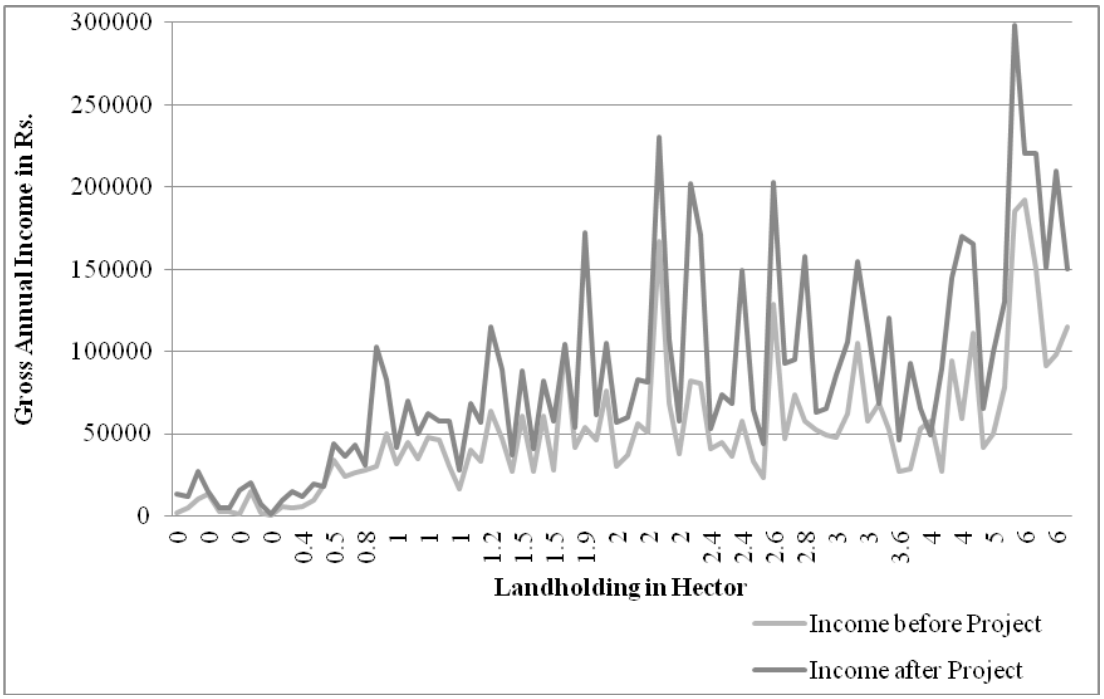
13 NABARD, Indo-German Watershed Development Programme in Maharashtra for Sustainable Regeneration of Natural Resources (2005), available at http://www.icrisat.org/what-we-do/agro-ecosystems/CA_Watersheds/pdfs/Indo-German%20watershed%20dev%20proj%20in%20Maharastra.pdf.

14 S. Rana and A. Singh, Western Orissa Rural Livelihoods Project, Working Paper No.36, Government of Orissa and Department for International Development, available at http://www.worlp.com/images/publication/WORKING%20PAPER%2036.pdf.

15 The 2006 Report of the S. Parthasarthi Technical Committee on Watershed Programs in India extensively talks about the equity issues in watershed development. *See* note 11 above.

This is very important to understand whether the increase in income in the watershed is equal across all the groups (resource-poor and resource-rich) or the increase in income has only taken place for people who own resources and were already better off. Also it is necessary to determine whether the watershed project reduced the gap in income levels between the resource-poor and the resource owners in the background of equity concerns.

Figure 4.9 shows the gross annual income of the sampled households from the agriculture, livestock and labour work (in Rupees) on the Y axis whereas X axis represents the landholdings of the households (in hectares). The (lower) light black line represents the income of these households before the watershed project and the (upper) dark-black line represents their income after the project.

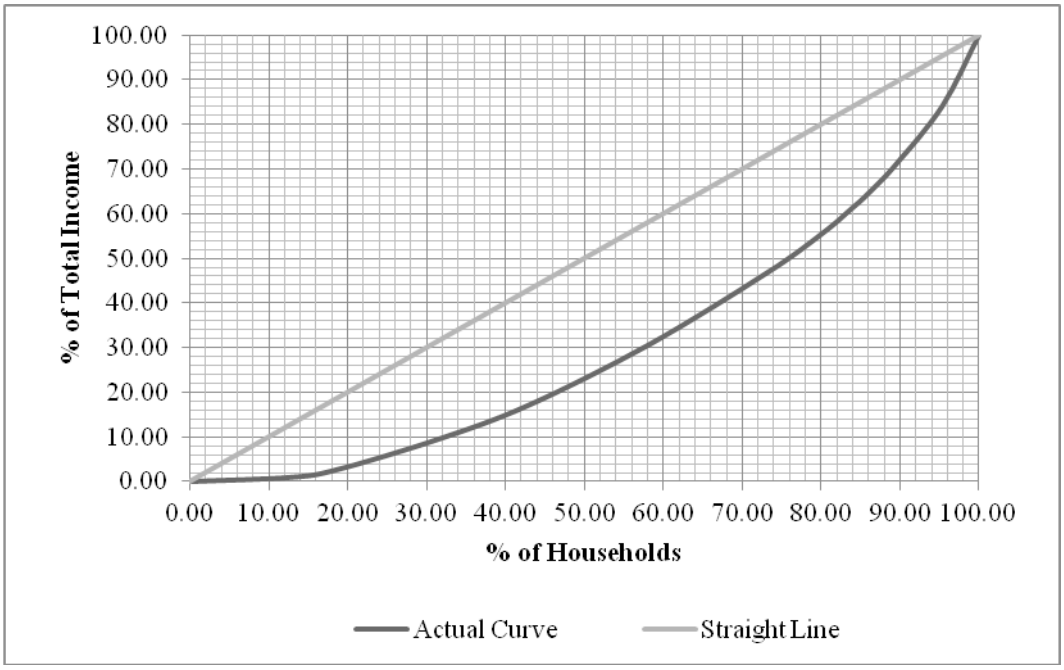


Graph 4.9: Landholding-wise Change in Income

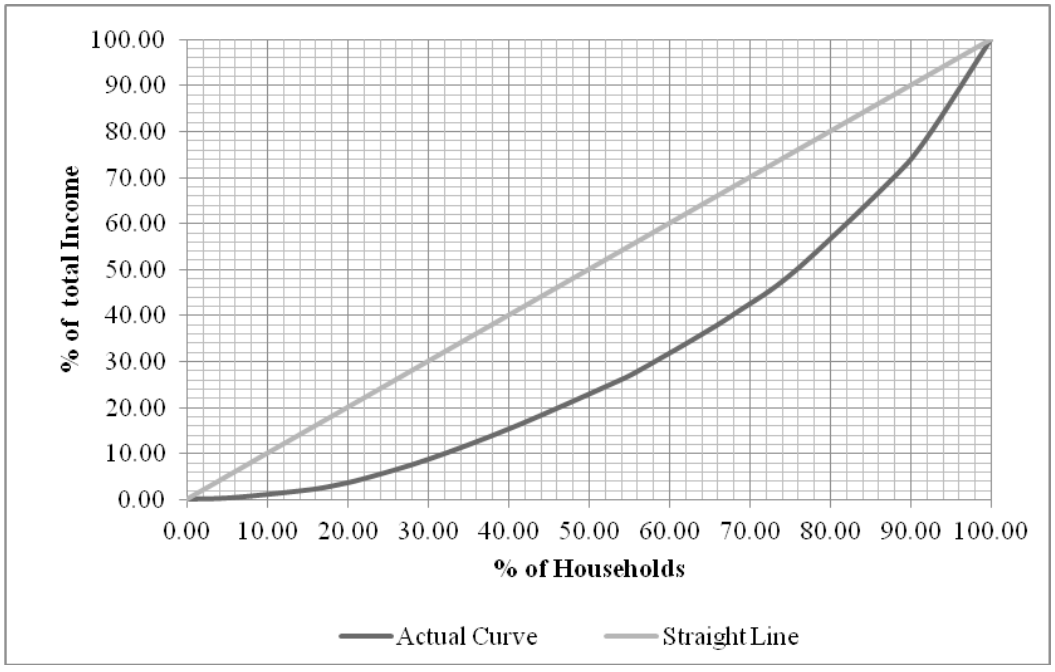
Figure 4.9 depicts that the income level of almost all households across their landholding status has increased. However the pattern or proportion of increase is not equal across landholdings. The income of the landless and marginal landowners (having less than 0.5 hectare) has increased but not significantly. This shows that where the landownership is increasing, the income level has also increased with the significant increase in the proportion of pre- and post-watershed project income. This indicates that the income of landowners owning more than one hectare has increased significantly. Also in figure 4.9, in the case of a few landowners, a very high increase in income is witnessed before and after the project (almost double or more than double). The major reason is the significant increase in their income from livestock sources (milk production) after the watershed project.

4.3.6.3 Use of Lorenz Curve and Gini Coefficient for Income Analysis

The study used the Lorenz Curve and Gini Coefficient to analyze the pattern of gross income distribution among all households in the pre- and post-project scenario. Interestingly, as seen in figures 4.10 and 4.11, no change in the actual curves is observed in the pre- and post-project scenario.



Graph 4.10: Lorenz Curve before the Project



Graph 4.11: Lorenz Curve after the Project

In both figures 4.10 and 4.11, the actual curves pre- and post-project indicate that 50 percent households own only around 20 percent of total income and 70 percent households own around 40 percent of total income whereas only 30 percent households own around 60 percent of total income. Both these two curves indicate that there is no change in the distribution pattern of total income across the households before and after the project. Also no change is observed in the pre- and post-project scenario in Gini Coefficients. The Gini coefficient of the income inequality distribution in pre-project is 0.396419, and post-project is 0.390272.

So this data and observations show that

1) The income of various household groups in the sample such as landless, small/marginal and big farmers and farmers with and without irrigation facilities has increased but the proportion of increase is not the same across these groups. The proportion of increase in income is low among landless and marginal farmers (mostly, ST, SC and OBC) compared to other landholding groups.

2) The income of all households has significantly increased after the watershed project. However, the Gini coefficients in the pre- and post-project scenario are almost the same. This indicates that the distribution pattern of income across the households in both the scenarios has not changed. The watershed project has not contributed to equitable distribution of income. Existing income level inequalities are further continued in the watershed.

5 RECOMMENDATIONS

This section discusses the possible methods and alternatives to effectively deal with exclusion issues in watershed projects. The section is divided into two sub-sections: economic and institutional dimensions of social exclusion.

5.1 Economic Dimension of Social Exclusion

To effectively deal with income level inequity issues, this paper proposes the following recommendations.

5.1.1 Reconsider Watershed Approach

The overall focus on social issues in the land-based watershed approach is quite unclear. This mechanism can be improved by concentrating on the 'Watershed-Plus' approach by increasing livelihood opportunities for the resource-poor. Financial support through watershed programmes may be linked with the needs of the potential beneficiaries. For example, for treatments on farmer's land, grants should only be given to households below the poverty line while landowners should be eligible for subsidised credits. In addition, special programmes for landless and other resource-poor groups can be added to improve their employability, either as wage labour or as self-employed micro entrepreneurs. Landless people should be given a share in the increased water which is the newly generated benefit of the project. The landless and other disadvantaged people may be equipped with an irrigation source (open or bore well) and facilities to utilise their share of water through the watershed project. They may access a piece of land on lease/sharing/contract basis and utilise their share of water for cultivation or other productive uses.

It is important to understand the water sharing and equity issues in the background of the ongoing water reforms in Maharashtra. The Maharashtra Water Resources Regulatory Authority Act, 2005 (hereafter MWRRA) focuses extensively on the 'economic value' of water and determining the 'tariff' of bulk water and various water uses. Most significantly MWRRA also neglects the right to water for life and livelihood support and the existing socio-economic inequity in water distribution.[16] The law does not consider the rights of landless over water resources.

16 Resources and Livelihoods Group, PRAYAS, Independent Water Regularity Authorities in India: Analysis and Interventions – Compendium of Analytical Work 2006-2009 (Pune: PRAYAS, 2009).

So, in the context of equity, there is an urgent need to consider and include landless people in the newly generated benefits of watershed programmes.

5.1.2 Reconsider Social-Fencing in Watershed

The concept of social fencing[17] needs to be widened and it should be applied strategically and carefully. At present, rulemaking in watershed programmes is confined to a ban on open grazing, tree felling (which by and large affects the resource-poor) and limitations on water intensive crops. There are no convincing mechanisms or rules in place to prevent powerful individuals from drilling deep wells when the water table has risen and the project has ended. This is mainly because there is no law at present to control the exploitative groundwater use of landowners. The proposed Model Groundwater Bill which was revised in 2005 by the Central government, and also MWRRA, provide for the registration of owners of tube wells, allocation of water rights, registration of drilling contractors and prior permission before drilling a tube well.[18] However, they are silent on equity issues and 'controlling' exploitation of groundwater, and they are only expected to 'regulate' the current water-use pattern by allocating 'permits' to water users. There is a need for a concrete law or provisions in the MWRRA to prevent and control groundwater exploitation, with the possibility of promoting social and public control.

5.2 Institutional Dimension of Social Exclusion

There is an urgent need for redesigning local institutional strategies in watershed programmes. A membership quota for women (30 percent) and representation to other resource poor groups in VWCs and SHGs will not rectify the prevailing gender bias as well as socio-economic and political relations. Other innovative and courageous participatory mechanisms need to be experimented with for this purpose. Various separate sub-committees of VWC can be formed for women, the landless, and SC, ST, and OBCs, with predefined equal powers in the VWC decisionmaking process. It is quite interesting that like VWCs in watershed programmes, the major committee formed under the Maharashtra Farmers Management of Irrigation Systems Act, 2005, that is, the Water Users Association, and village level committees formed under major drinking water schemes such as *Jal Swaraj* and *Apale Pani* in Maharashtra, are 'joint' and 'heterogeneous' in nature. Generally, these committees are represented by men and women from various socio-economic backgrounds but they are dominated by the village elite. In such institutions and committees, the scope of women's participation or the provision of women development fund is largely limited to economic transactions rather than confidence and capacity building of women.

Therefore, for social inclusion, it is not enough to 'include' the resource-poor in village- and watershed institutions, which are mainly dominated by elite groups and where there is no space for resource-poor groups to express themselves. Separate spaces in the form of sub-institutions or sub-committees must be created to provide a forum for the various stakeholder groups, focussing on resource-poor groups in watershed programmes. Such an approach may strengthen the bargaining position of resource-poor groups within the watershed community in a much better manner compared to their nominal participation in VWC and other watershed institutions.

6 CONCLUSION

At the biophysical level, the Gadiwat watershed is fairly successful and has achieved a lot in terms of water and soil conservation benefits. The programme has significantly increased water

17 The term 'social fencing' denote community's control and rule-making for sustainable and equitable use of natural resources, such as ban on open grazing, tree felling, etc.

18 Sanjiv Phansalkar and Vivek Kher, 'A Decade of the Maharashtra Groundwater Legislation: Analysis of the Implementation Process' 2/1 *Law, Environment and Development Journal* 67 (2006), available at http://www.lead-journal.org/content/06067.pdf.

availability for irrigation and livestock, soil quality, land productivity, and rehabilitation of degraded and extension of arable land. The project has also succeeded in increasing labour availability and reduction in migration at least during the project implementation phase. At the same time, resource-poor members of Scheduled Castes and Scheduled Tribes, particularly landless households, are by and large excluded from these benefits. The programme certainly had a positive impact on income and poverty reduction. However, equity issues have not been addressed effectively in the watershed program. The better-off farmers owning land and irrigation sources have benefited immensely while a much lower proportion of benefits accrued to those starting with little assets in the beginning (landless and marginal rain-fed farmers). The unequal income distribution pattern (for example, the Gini coefficient is almost the same in the pre- and post-project scenario) indicates that the pre-watershed inequitable income distribution pattern within the community has been further perpetuated in the post-watershed scenario. Therefore, there is scope and need to redesign strategies to equitably extend the benefits and increased resources of watershed projects to the resource-poor (particularly the landless).

At the level of institutional inclusion and participation in watershed projects, there is an urgent need and scope for effective inclusive strategies and conscious efforts to implement these strategies. Though watershed projects create various local institutions, meaningful participation of members must be encouraged in order to ensure truly democratic functioning of these institutions. Similarly, it is necessary to ensure equal representation and institutional opportunities for the meaningful inclusion of resource-poor people in watershed level institutions.

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