



Deutscher

Tropentag

2003

Göttingen, October 8-10, 2003

Conference on International Agricultural Research for Development

Equity and Poverty Issues in Watershed Development Projects – A Case Study of Impact Assessment on Marginal Farmers and the Landless

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Abstract

Participatory watershed development projects have been seen as a solution for the problem of rural resource degradation and poverty alleviation in the past decade. Studies conducted on a large number of projects claim substantial improvements, mostly based on the positive biophysical indicators as well as the new institutions built during the project. However, there is still no convincing evidence if there has been equity in the distribution of benefits and if they have been successful in alleviating poverty of the most vulnerable sections.

Given this background, the case of Indo-German Watershed Development Programme in Maharashtra, India has been studied in detail to assess the impact on marginal farmers and the landless poor. Following the different components of sustainable Livelihood Framework, the watershed concept with special reference to address the issue of equity and poverty alleviation has been studied and necessary methodological issues and indicators to support them for the investigation have been identified. Based on the identified methodological issues, relevant indicators and the institutional approaches in practice, the impact of different measures on selected households of marginal farmers and the landless in the project has been analysed by comparing before and after project empirical data.

Though the overall impact of the project on the livelihood of the people of the project area has been remarkable, there have been significant differences in the benefits accrued between marginal farmers and the landless. While the marginal farmers benefited from the improved natural resource base directly by increasing productivity and adopting economically favourable cropping patterns, the landless could not derive their full share of benefits from the project due to lack of access to land. Other institutional building efforts did less to strengthen their voice and bargaining power to articulate their interests. Hence, equity and poverty issues could not be addressed effectively. This study, therefore recommends concerted further research efforts directed towards the implications of promotion of watershed activities under different property regimes and social groups to identify the underlying economic, cultural, social and institutional factors influencing the said equity and poverty issues.

Introduction

As the linkage between the resource degradation and poverty in the rural areas of the developing countries became more evident, respective governments as well as international donors started to emphasize more on resource management projects with participation of the local communities. The last decade has seen increasing decentralization of responsibilities for management of natural resources to the community level. Over the past several years there has

been mounting support for development policies and projects that aim to transfer rights and responsibilities from central governments to more localized bodies, whether local government units, civil society organizations, or informally organized community groups. In India, for example, major rural development programs have been recognized around a watershed approach, with an annual budget exceeding US\$500 million (Farrington et al. 1999). Despite the growing importance of Watershed projects as an approach to rural development and natural resource management, to date there has been relatively little research on their impact on different communities in general and their specific impact on poverty alleviation and equity issues in particular. Approaches to assessing the success of Watershed Development (WSD) in India have evolved over time. The late 1980s saw a growing awareness that WSD is about more than maintaining or improving the productivity of natural resources. The guidelines issued by the then Ministry of Rural Areas and Employment for example cover multiple objectives including, productive, social, ecological/environmental and equity objectives.

As WSD approaches have evolved from externally imposed biophysical interventions towards more participatory approaches encompassing a broader range of activities, the potential impact of WSD on household assets has increased. This has implications for all five types of assets defined in the Sustainable Livelihood (SL) framework viz., human capital, social capital, financial capital, natural capital and physical capital. (Turton 2000). However there are concerns regarding the distribution of these benefits. For instance, WSD envisages the construction of a wide range of physical assets principally for soil and water management but it is the better off, being landholders, who generally benefit disproportionately from an increase in groundwater levels brought about by these measures. Of particular concern is the issue of access by poorer groups to common pool resources (CPRs). WSD projects have invested considerable efforts in establishing the rules for access to such areas and in creating collaborative agreements for community management of such CPRs. The key question is the extent to which poor retain access to CPRs after WSD efforts have taken place. Overall the issue is whether the short-term losses in terms of access to CPRs are outweighed by the long-term gains. In the areas where communities are highly stratified on the basis of caste, class and ethnicity, as is the case in India, questions about equity in the distribution of benefits cause a lot of concern. Findings from Kerr and Chung (2001) indicate that watershed management projects of both government and NGOs excluded the landless people in many of the Maharashtra villages in India. Interviews with these people revealed that they had little say in project decisions and felt harmed by the projects as they aimed to close common lands to grazing, a livelihood on which many landless people were dependent.

Although, many of the recent watershed management projects include this impoverished section of people by emphasizing the involvement of these groups through some non-farm income generating activities and so on, there has not been enough documented evidence that they are having their share of deserved benefits. This issue gives rise to some controversy with the sustainability of such projects especially in the cases like that of India where absolute landless and marginal farmers (< 0.2 ha) constitute 43 percent of the rural households. Even if there are a number of successful projects in the world, they remain as 'islands of success'. There remains a huge challenge to find ways to spread or 'scale up' the processes, which have brought about these transitions. Sustainability ought to mean, therefore, more than just activities that are environmentally neutral or positive; it implies the capacity for activities to spread beyond the project in both space and time. A successful project that leads to improvements that neither persist nor spread beyond the boundary should not be considered sustainable. (J. Pretty 1998)

For a project to be successful, consideration needs to be given to what type of property rights create incentives for people to manage resources sustainably and productively while at the same time ensuring access to those whose livelihoods depend on them. Social scientists define property rights in a different way than the layman's view of property rights as ownership, usually

private or state ownership. Bromley defines a “property right” as “the capacity to call upon the collective to stand behind one’s claim to a benefit stream.” Therefore, a right is not a physical entity, but rather an assurance of being able to derive benefits due to the legitimacy accorded by one’s smaller or larger society. Property rights specify the different types of claims people have to resources by specifying what one can and cannot do and what benefits one is entitled to. They determine long-term incentives to invest in, sustain, and improve resources. Depending on their distribution, property rights shape patterns of equality and inequality with respect to resource access. And depending on who participates, collective action by multiple resource users may enable a more equitable distribution of resource benefits. (Anna Knox and Ruth Meinzen-Dick).

The whole scenario demands a closer examination into the institutional environment, institutional arrangements and competencies (of both persons and organizations). Institutional environment, institutional arrangements and competencies are important for realizing sustainable agriculture, which has economic, social or socio-economic and environmental dimensions. The institutional environment deals with the rules of the game (formal and informal), the competencies with the capabilities of people, firms and organizations, and institutional arrangements are concerned with the playing of the game (Louis H.G. Slangen). Studies showed that, areas where communities are highly stratified have led to confrontation with existing institutional arrangements. Key questions exist over the relationship between elite dominance, pre-existing social relations and the process of empowerment. Hence, the successful conservation of resources with equitable participation of different sections of people demands a clear understanding of the institutional environment, institutional arrangements as well as competencies of the actors.

Objective

Although, there have been a number of evaluations of WSD projects which concluded in favour of these projects, not enough evidence is available to prove that the benefits of these projects have been distributed equitably. This was because almost all the evaluations were primarily based on biophysical indicators. The objective of poverty alleviation cannot be cherished unless the most suppressed sections of the society are given enough priority. The objective of the paper is therefore to assess the impact of the watershed development projects on the marginal farmers and the landless. Different activities initiated by the project under study are analyzed and their success is examined. The challenges faced by such projects to include the sections deprived such benefits are looked into and implications are drawn which could be useful for similar projects in the future.

Methodology

The study followed the following methodology –

- a) the watershed concept and different watershed initiatives in India have been studied with special reference to analyze it’s approach to address the issue of equity and poverty alleviation under the Sustainable Livelihood Framework (SLF)
- b) the case of Indo-German Watershed Development Programme (IGWDP) has been studied in and all measures directed towards poverty alleviation are documented.
- c) Vaiju Babhulgaon Watershed Project has been studied in more detail by conducting household interviews with marginal farmers and the landless to assess the impact

The survey was conducted in the project area in the month of August 2002 through a questionnaire designed to obtain both qualitative and quantitative data from the marginal farmers and landless regarding the impacts of the project. Cropping intensity, yields of major food grains, incomes from different sources and their percentage contributions towards the

total incomes have been calculated from the collected data and compared with the data before the project. Information regarding migration, food security and benefits from the CPRs, access to formal institutions and creation of assets by the target groups has also been collected and analyzed to draw the conclusions. 24 marginal farmer households(48% of the marginal farmer population) and 13 landless households(56% of the total landless population) have been interviewed. 17 women have been interviewed separately. Quantitative data obtained refers to before and after the project has been implemented. For after the project, the reference year is 2001 and for before the project the reference year is 1996.

Watershed Approaches in India

Concept: A watershed is commonly defined as an area in which all water drains to a common point.¹ From a hydrological perspective a watershed is a useful unit of operation and analysis because it facilitates a systems approach to land and water use in interconnected upstream and downstream areas. In dry land areas such as the Indian semi-arid tropics, watershed projects aim to maximize the quantity of water available for crops, livestock and human consumption through on-site soil and moisture conservation, infiltration into aquifers, and safe runoff into surface ponds. (Kerr and Chung 2001).

Evolution of Watershed Approaches

The WSD approaches have moved away from a focus on the rehabilitation of the natural resource base towards a more holistic vision, which sees WSD as one approach to tackling rural poverty. They have evolved, to a large degree, in parallel to the literature on community-based natural resource management (Kerr 2002). The first large-scale projects took a highly technocratic, top-down approach that paid little attention to the local technical and managerial knowledge. As the early projects showed disappointing performance, there was a gradual move towards greater local participation and acceptance of local technologies, and better performance in terms of conservation and productivity (Farrington et al., 1999; Hanumantha Rao, 2000; Hinchcliffe, Thompson, Pretty, Guijt, & Shah, 1999). More recently, there has been renewed interest in the question of how to ensure that benefits are broadly distributed.

The past few years have seen growing concern about ensuring that poor, landless people benefit from watershed development. There is specific attention to sharing the net benefits in the 2000 common guidelines between the Ministries of Agriculture and Rural Development. In fact, they return to the ideas first introduced in the Sukhomajri and Pani Panchayat projects calling for poor people to gain usufruct rights to natural resources made more plentiful or more productive through watershed development (Government of India, 2000). In this respect the common guidelines move closer to some of the most innovative NGOs and some of the bilateral assistance agencies. The Indo-German project, for example, succeeded at least in one village in convincing wealthier people to grant to the landless people the exclusive fishing rights in a runoff pond established under the project (WOTR, 1999). Some NGOs, meanwhile, ask people to develop written agreements to share products from common lands with landless people (Kerr, 2002).

These steps while favourable towards poverty alleviation, pale in comparison with the full and equal rights granted to landless households in Sukhomajri and under Pani Panchayat. While there is growing discussion of sharing resource rights under the common guidelines, why has this been so rare in practice for the last two decades?

¹ This definition corresponds to the definition of “catchment” provided by Swallow, Garrity, and van Noordwijk (1991), and represents the common use of the term in “watershed” projects.

Several factors help provide an explanation. First, early efforts to replicate the Sukhomajri experience faced difficulty in convincing villagers to share water rights in many places. Vaidyanathan (1991) pointed out that each village is unique and has its own standards of what is fair and workable. Outsiders may disagree, but externally imposed standards will not result in a sustainable arrangement. Some villages managed to succeed in developing and managing their watersheds without granting full water rights to landless people, proving that it is not always necessary.

Second, unlike Sukhomajri and Pani Panchayat, in most watersheds the easiest way to harvest water involves storing it in underground aquifers, to be lifted through wells using electric pumps. Water law in India states clearly that whoever owns a piece of land shall have the right to pump water that lies beneath it, as long as it does not interfere with drinking water supplies (Singh, 1991). Watershed projects can negotiate and try to coax landowners, but the law stands behind any landowner who does not wish to share water with others. This poses a major constraint to efforts to develop innovative mechanisms to share water resources (Kerr, 2002).

Third, it is difficult to attribute availability of water in an aquifer to watershed project activities or to land-use patterns upstream. Moreover, in some places conditions for water harvesting are poor and the amount of additional water generated is small, making the issue less pressing (Kerr, 2002).

Watershed Development and Sustainable Rural Livelihoods

Sustainable Livelihoods (SL) approach suggests that improvement of natural resources through WSD is not an end in itself, but it is a means to an end: ‘reducing the incidence of rural poverty’ (Turton, 2000). The SL approach provides a framework for analyzing the ‘fit’ between WSD activities, rural livelihoods and ultimately poverty reduction. Table 1 indicates some questions raised by the SL approach.

Table1. Sustainable Livelihoods and WSD

| Livelihood component | Key issues |
|---------------------------------|---|
| Capital assets | Which assets are more important to the poor? Are there particular combinations of capital assets – or sequences in their development – which increase the likelihood that WSD will succeed? Has access to poor to common property improved as a result of WSD? |
| Livelihood strategies | Does WSD support the livelihood strategies of the poor? How does WSD interface with other livelihood strategies: NR-based, non NR-based and migration? How do people’ livelihood strategies affect their participation in and benefit from WSD? |
| Sustainable livelihood outcomes | What contributions has WSD made to sustainable livelihoods? What are the relevant outcome indicators? Are people’s own livelihood priorities being addressed? How can activities be adapted in order to enhance livelihood impacts on target groups, while remaining consistent with the overall objectives? |

This study investigates the case of IGWDP and attempts to answer some of the questions raised by the SL framework. Based on the results of the analysis the success of the project in realizing the goal of reducing the incidence of poverty is evaluated.

The Indo-German Watershed Development Programme (IGWDP)

The “Indo-German Watershed Development Programme” (IGWDP) is a bilaterally assisted programme of participatory watershed development implemented in the major drought-prone areas of the state of Maharashtra, India. The programme was initiated in 1989, but was operationalised in December 1992. IGWDP is presently being implemented in more than 92,000 ha spanning 20 districts of Maharashtra.

The objective of the programme is to develop micro-watersheds in a comprehensive manner through the initiative taken by village groups, including women and their willing participation. This would enhance production systems in such a way that they are sustainable over a long period of time. It would also decrease the severe impact of drought and create adequate and sustainable livelihood opportunities for the people living in that area. The distinguishing feature of the IGWDP from other watershed projects is its implementation in two different phases - 1) Capacity Building Phase (CBP): A small micro watershed is developed as a demonstration project, which serves to provide training for the villagers and the NGOs. Watershed Organisation Trust (WOTR) is the project holder of the CBP. It is a qualifying phase to enter the next phase and lasts for 12-18 months. 2) Full Implementation Phase (FIP): NGOs and projects that have successfully gone through the CBP move into FIP which is a continuation or an expanded and accelerated pace of activities already going on. Sanctioning of funds, monitoring and supervision of the project are done by the National Bank for Agricultural and Rural Development (NABARD) and the Programme Coordinator while ongoing support is provided by WOTR. The project receives support from various governmental and non-governmental Technical Support Organisations (TSO) and also policy and extension support from the Government of Maharashtra, Government of India and its various agencies and departments.

Main features of the watershed to qualify for the project –

- It should be a primary catchment area or the upper portion of a drainage system, with no more than 20 percent of perennially irrigated cultivable land
- There should not be severe disparities in the land holding pattern. This is because where ownership patterns are strongly skewed in favour of a few, social harmony and consensus is unlikely to be obtained.
- The watershed dwellers except the landless and single parent households, should contribute at least 16 percent of unskilled labour costs of the project by means of ‘*shramdaan*’ (voluntary labour)
- Ban on free grazing and tree felling has to be observed strictly by undertaking social fencing on treated lands.
- A Village Watershed Committee(VWC), which is representative of all social groups and geographical areas of the watershed has to be nominated consensually during a *Gram Sabha* (village general body) and the same is the legal project holder.

Vaiju Babhulgaon Watershed Project – Impacts on the Marginal Farmers and the Landless

Impact on marginal farmers:

Nearly 10 percent of the total population is marginal farmers (0-<1 ha). Following are the impacts of the project as perceived by the marginal farmers.

Impact on yield: the average yields of Sorghum and Pearl millet in the case of marginal farmers increased from 4.76 to 6.63 quintals/ha and 7.19 to 10.42 quintals/ha respectively

Impact on cropping pattern: the project had significant impact on the cropping pattern of the marginal farmers. More than 60 percent of the marginal farmers, interviewed have been found to cultivate new crops like Onions, Groundnuts, and other pulse crops

Impact on cropping intensity: there has not been a significant increase in cropping intensity as almost all the available area was sown even before the project, which is in many cases same as that being sown now. Another reason that could explain the little increase can be very less rainfall received during the previous year, and very less moisture retention for a summer crop.

Impact on the incomes:

The average annual incomes of the marginal farmers have significantly increased after the project. The contribution of different sources of income to the total income has also significantly changed during the course of the project. Following Table 2 shows the changes in the contributions of different sources to the main income. The incomes shown in the table are in nominal terms.

Table 2. Average Incomes of Marginal Framers from Different Sources

| Source | Average Income (Rs.) | | Percentage to Total Income | |
|----------------------------|----------------------|--------------|----------------------------|--------------|
| | Pre-Project | Post-Project | Pre-Project | Post-Project |
| Agriculture | 1,083 | 10,052 | 8.93 | 37.65 |
| Livestock | 5,045 | 9,983 | 41.62 | 37.40 |
| Agril.Labour | 2,623 | 3,437 | 21.64 | 12.87 |
| Other Sources ² | 3,371 | 3,223 | 27.81 | 12.07 |
| Total | 12,122 | 26,695 | 100.00 | 100.00 |

Reasons for the changes in the incomes:

(a) *Increase in the agricultural incomes* have been seen because of the following reasons:

- Increase in the yields of the food grains. Earlier, the whole produce was not enough to meet even the household requirements. Whereas no, after meeting the household food requirements they have surplus to sell in the market.
- Change in the cropping pattern is also one of the main reasons for the increase in the agricultural incomes of the marginal farmers. Cultivation of high value crops like Onions, oil seeds and pulses fetch a higher price in the market than the food grains.
- All the above changes were possible with the increase in the *in situ* soil moisture conservation and increase in the available water for irrigation.

Despite the significant increase in the share of the average agricultural income of the marginal farmers, there exist wide disparities of the same within the group of marginal reasons. Some reasons, which explain the situation, are:

- *Location of Land*: The yields of the crops depend upon the location of the land in the watershed (upper, middle or lower). For example, the farmer possessing land near to the percolation tank has more water and subsequently more income than the farmer with land in the middle catchment and no irrigation.

² Other sources include Employment Generation Schemes (EGS), craft work viz., carpentry, tailoring, and from migrant members of the household.

- *Access to agricultural finance:* Farmers with access to agricultural finance could make more long term investments like installing a pump and laying pipelines to draw and convey water to the fields which increase yields and in turn incomes of the farmers.

- *Subsidiary activity:* Farmers having a subsidiary activity or employed in a regular service were able to finance their agriculture better than the farmers solely dependent on agriculture for their sustenance. This lead is factor lead to the more increase in the agricultural incomes than the others.

(b) Although, there is an *overall increase* in the *incomes from livestock*, mixed changes have been observed across the group of marginal farmers. Some had a sharp increase in the livestock incomes, while some had a sharp decline in their livestock incomes.

- The increase in the livestock incomes of some farmers was mainly because of the high milk-yielding crossbred cows bought during the course of the project, because of the increased fodder from crop residues and other forage crops. These farmers are again the ones with subsidiary employment or better access to credit facilities.

- The decrease in the livestock incomes of some farmers was mainly because of the decrease in the number of goats and sheep, following the measures taken under the project. Goat and sheep rearing was seen as profitable by these farmers, as it requires less initial investment and maintenance unlike the crossbred cows. These were the farmers with poor access to long-term credits.

(c) There is only a *slight increase* in the *farm labour income* of the marginal farmers, in spite of the increase in the wages and work availability in the village. This is because some farmers have completely abandoned working in other's fields as they are mostly occupied with the labour in their own field. But, these were only 25% of the sample population while the rest continued to engage themselves in agricultural labour on others fields. The steep rise in the agricultural and livestock incomes of some farmers is another reason for the reduction in the contribution of average farm labour income to the average total income.

(d) The huge *decline* in the contribution of the *income from other sources* was due to the decrease in the migration of marginal farmers. About 50% of the sample population of marginal farmers used to migrate seasonally to other villages or towns in search of labour before the project was initiated. The increase in the labour availability within the village on their own field and other's fields helped them avoid migrating to other places for work. At the end of the project, only three (12.5%) of the sample population of marginal farmers was still migrating.

Impacts on the Livelihoods of the Landless

There was no significant increase in both the agricultural labour days and agricultural labour incomes for the landless. Almost all the respondents noticed no difference in their current number of farm-labour days from before. A slight increase in the farm labour income was noticed which is mainly due to the increase in the wage rate which may not very significant in the real terms. One reason observed by the participants as responsible for the insignificant increase in the labour availability in spite of the increased farming activity, is low rainfall (only 265mm recorded in 2001) which is just not enough to meet the demand for work of the landless agricultural labourers. Moreover, they have to compete with the marginal farmers, who cannot sustain their living with their farm produce, for the limited available labour. However, at least two of the seven landless agricultural labourer respondents, admitted during the qualitative interviews that there was increased labour availability due to agro-horticultural crops taken up under the project. The rest reported that, the only benefits they derived were from the employment, during the project period.

The only special provision for the landless under the project was exemption from *shramdaan*. But, against the guidelines laid down by the Project Sanctioning Authorities, all the landless were made to contribute voluntary labour. During the interviews, 9 out of 13 respondents from the landless community reported that the project did not bring any difference in their livelihoods. One respondent reported he was worse-off because of the closure of the commons for grazing resulting in the decrease in his income from goats.

Access to Common Property Resources

Ban on free grazing was strictly observed as a pre-condition for the full implementation of the project, however, fodder grass available from the regenerated forests is cut and carried to feed the livestock. Some of the landless even collected leaves from the forest, which were used to make brooms. They are also the source of the fuel for many households

Impact on Women

The most important benefits to the women from the project are availability of drinking water and access to credit. As discussed earlier, drinking water problem was persistent in the watershed area. But, with the ground water recharge due to the project measures, the water level in the common wells increased which reduced the anxiety and the workload of the women.

As a result of the project measures and training, women were highly motivated to form savings and credit groups. Money earned from wages and other activities was used to provide credit for group members. Women from almost all the households are the members of the SHGs and any member can borrow for a short-term. 16 out of 17 women interviewed are members of an SHG and 12 of them have borrowed from the group at least once for different purposes mostly for household purposes. Finance for the purchase of gas stoves was also provided through the credit groups.

Institutions at Village Level

Following institutions were developed during the project period:

1. VWC: The Village Watershed Committee is a registered consisting of 15 members of which 5 are women. It worked as a catalyst during the development, playing an active role in organizing the whole village for taking part in the watershed works. It is the implementing agency of the watershed project at the village level. Various roles played by the VWC include planning, implementing, conflict resolving, monitoring and recording the developmental activities of regarding not only the watershed but also other activities. As it includes all the sections of the people in the village, it evolved as a sound institute in the village. The performance of the VWC is believed to be good with regards to observing the social fencing of the Common Property Resources (CPRs) and maintaining the regeneration of natural resources.
2. SHG: There are 14 Self Help Groups having 214 members from all the classes of the society. Total savings of all groups as in March 2002 was Rs.314,055. Money earned from wages or other activities was used to provide credit for group members. They gained access to the credits from the lending institutions as a group, which would have been very difficult to gain individually. The internal lending and good repayment boosted their self-confidence, confidence in other members and also won the confidence of the lending institutions. The credits from SHGs are generally used by the marginal farmers and landless households for household purposes and occasionally for income generating activities.
3. SMS: *Sanyukta Mahila Samiti* is a coordinating body of all the SHGs in the village. It is formed by selecting 2 members from each SHG and consists of 28 members. SMS plays a leading role in linking all the SHGs to WOTRs micro-finance. They hold a good repayment record so far. Besides, all the assets created the 5% women's project are owned and maintained by the SMS on behalf of all women.

Conclusions

With regards to the project objective of achieving poverty alleviation through regeneration of natural resources, the Vaiju Babhulgaon Watershed Project has had mixed impacts across the sections of marginal farmers and the landless. The underlying assumption of the concept of WSD is that, once the natural resource bases of production are regenerated and strengthened, most of the basic livelihood needs of the community living within that watershed will be met. The overall impact of the project on the livelihoods of the dwellers of the project area has been significant. But, the amount of benefits one receives from the project is directly proportional to the area of land one owns. Nevertheless, the project was successful in reducing the incidence of poverty in the case of marginal farmers to a large extent by influencing the significant increase in their agricultural incomes.

Although, the project had a significant influence on the livelihoods of the marginal farmers, the landless could not derive their share of benefits from the project. They could not find an alternative employment after the completion of the watershed works. The increased labour available as a result of increased agricultural activity in the village is not sufficient to meet the demands for work of the landless. Though, almost all of the landless people are the members of the newly formed savings groups in the village and had access to short term credits, it was utilized for only household purposes and not for income generation unlike the landholders. This again emphasizes the importance of access to land in order to benefit from the project. But, it is believed that in a longer term, with reasonable rainfall and continued access to the enhanced capital assets of the watershed, the landless could derive some benefits in terms of increased labour, increased credit supply for income generation activities etc.,.

The WSD project had a great influence in developing the conditions of women in the watershed region. They were highly motivated, and taking an active part in the development of the village as a whole. They enjoyed increased financial independence due to formation of Self Help Groups.

Apart from the issues of equity and poverty alleviation, the watershed project in Vaiju Babhulgaon has resulted in several other benefits for all the watershed dwellers in general. They are –

1. Availability of drinking water within the village, which was previously a persistent problem
2. Regenerated forests, as a result of ban on grazing and afforestation
3. Social cohesion and social discipline brought through the formation of new institutions in the village
4. Increased availability of short-term credit

Based on the results of the study of the impact of the WSD on the marginal farmers and the landless, following conclusions have been drawn about the efficiency of the participatory WSD approach in tackling the issues of poverty alleviation and equity.

(a) WSD approach takes the dependence of all rural livelihoods on the natural resources surrounding them as the main assumption and aims at improving livelihoods through measures for improving natural resources. Its success in improving natural resource base is well evident from the many bio-physical indicators in many projects. But, in order to derive any major direct benefits from the improved natural resource base, access to cultivable land is an important pre-condition. The landless are expected to benefit either from increased agricultural labour or from common forests by collecting the NTFPs. Same was noticed during the case study – the marginal farmers, having access to even a small portion of cultivable land were able to reap benefits of the project by increasing the productivity of their land and intensifying their agriculture, whereas the

landless were still largely dependent on agricultural labour for their sustenance. Though, some of them depend on the commons for some NTFPs, this does not contribute enough towards poverty alleviation. Moreover, most of the Project Implementing Agencies at the programme level consider very ideal environments where there are no severe disparities in the land holding pattern, for implementing the WSD project. This potentially bypasses the landless, which are the most vulnerable groups of the rural societies.

(b) Participation of all the stakeholders in the planning and implementation of the project at the field level is an important component of the IGWDP. The VWC elected by the general body of the village is the implementing agency and the villagers are the owners of the project. One of the important aspects of these participatory strategies is empowerment. It is very important for ensuring equal distribution of benefits of the project. Participation is efficient, when awareness is created across all sections of the society of the benefits of the watershed project as well as their existing specific rights. This helps the landless poor, who are very vulnerable of being discriminated, to negotiate better with other stakeholders and secure their rights. But evidence from the case study that the landless were made to contribute voluntary labour, in spite of their right for being exempted from it proves that, the available participatory strategies are insufficient to meet the ultimate objective of poverty alleviation. Because, unless there is successful and equal participation from all the stakeholders, the benefits of a project built on these strategies are not sustainable. Without this, participation remains a rhetorical notion rather than becoming actual practice. The criticism should not be taken so much as failure of participatory approaches, but as instances where learning can take place and strategies can possibly be improved.

(c) The project also resulted in the formation of a whole range of new institutions in the watershed area, which influenced the livelihood strategies of different sections of people in different ways. The increased access to credit through Self Help Groups was one of the major positive impacts of successful institutional building achieved during the project. Both landholders and the landless have been actively engaged in these savings institutions, but the needs satisfied by the short-term credit obtained through these groups were different in both cases. While landholders used the credit mostly for income generation activities, the landless utilized short-term credit predominantly for household consumptive purposes strengthening the coping strategies adopted by them for their livelihoods rather on economic activity.

This study has following implications for further research on approaches to alleviate poverty –

a) A critical appraisal of conceptual approaches of WSD and their efficiency in alleviating poverty under the current property regimes is needed.

b) Research in order to attain a clear understanding of the livelihood bases of the landless poor and what property rights create incentives for them to manage resources in a sustainable way.

c) Concerted research efforts directed towards the implications of promotion of watershed activities under different property regimes and social groups to identify the underlying economic, cultural, social and institutional factors influencing equity and poverty issues.

This would go a long way in contributing towards the necessary re-orientation of watershed approaches and institutional changes which are highly relevant for policy makers, development planners and implementing agencies.

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