# Revisiting the Participatory Watershed Development Programmes of India

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## Abstract

Participatory watershed development (PWD) has attracted immense funds during last two decades. It is considered as one of the most viable means of soil and water management for rainfed agriculture particularly in plateau region. Despite the interest and outpouring of funds, PWD suffers from some inherent limitations and weaknesses. Paper analyses these limitation and weaknesses by reviewing the progress of PWD in India, and implementation process of PWD. Further, paper analyses the comparative advantages of participatory approaches in safeguarding the interest of poor and vulnerable. Paper also reviews the fate of 1994 guidelines for watershed development. It is found that PWD implementation although has been successful in several places; has elicited less participation in most government projects. Paper offers realistic suggestion for enhancing the capacity of actors and ensuring sustainability of PWD citing few success stories.

## Introduction

Participatory watershed development (PWD) has attracted most popular investment from development agencies and international donors during last two decades. The logic behind such investment lies in a promise to satisfy the Agenda 21 of earth summit held in Rio. Commitment of Rio summit was further reiterated in Johannesburg earth summit with added impetus. During 1993 – 2000, an estimated US $ 13 billion was spent for PWD in developing countries. Enthusiasm was so high that virtually all major development organisations had promoted hundreds of community oriented PWD in Asia, Africa, Australia, Europe, North and South America. Agencies as diverse as World Bank, DFID to the smallest local NGOs

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in developing countries have promoted PWD paradigm under different banners. India, China, Philippines and Indonesia have large domestic programmes aimed at watershed management. In Australia, Integrated Catchments Management (ICM) is being promoted as a strategic stakeholder oriented approach for natural resource management (Queensland Government, 1991). In New Zealand, the parallel framework is Integrated Systems for Knowledge Management or ISKM (Allen *et. al.*, 1997). In North America, PWD approaches has virtually replaced the more conventional approaches to watershed management (Berkes & Gardner, 1997; Grant *et. al.* 1997).

Despite this flood of interest and outpouring of funds, strong evidence indicates that well intentioned development agencies and specialists are venturing into unknown theoretical and management territory (Rhoades, 1998; Farrington *et. al*., 2000; Seeley, *et. al*., 2000). The complexity and ambition of multi-purpose, multi-scale watershed approaches make success elusive even in the best of circumstances. Project implementers have to manage an organisational complexity hitherto unheard of in their respective fields. In addition, colearning methods and information network are needed to deal with plural stakeholders with conflicting goals operating at different scales over time and space. This article critically examines some of the conceptual and operating issues for the purpose of working out viable strategies for future projects and programmes particularly in Indian context. Five questions will be explored in the search of past lessons learned and thereby to offer new directions for PWD:

A. What is the status of watershed development in India and Jharkhand?
B. What is the comparative advantage of participation in watersheds?
C. Does PWD suffer from methodological weaknesses?

D. How can an appropriate balance between interests of stakeholders at a local level be achieved and how can the interests of the poor be represented?

E. How can the capacity of individuals and organisations at all levels be raised so as to enhance the qualities of implementations of PWD?

## Watersheds in India

### a. The approach

In India watershed development was not originally conceived as a vehicle for rural development. The original concept of watershed management focussed on the management of biophysical resources in medium or large river valleys. Primary objective of the concept is to prevent runoff of water and concomitant soil erosion thereby restricting the siltation in reservoirs and reducing the occurrence of flash floods. Approximately 170 million hectares of land in India are classified as degraded land. Nearly half of these lands falls in undulating semi-arid areas and used for rainfed farming. Long term experiments by number of organisations showed that proper soil and water conservation activities could augment land productivity. These in turn, stimulated the formulation of a number of government projects, schemes and programmes in support of micro-watershed development.

In India, micro-watersheds are generally defined as the catchment area of a single outlet falling in the range of 500-1000 hectares. A mini-watershed comprises a number of micro-watersheds and covers around 5000 hectares. A macro-watershed is equivalent to a river basin and may encompass many thousands of hectares of land area. The micro-watershed concept aims to establish enabling environment for the integrated use, treatment and management of water and land resources of a watershed-based ecosystems. The main objective of micro-watershed

management is to achieve resource conservation and sustainable biomass production (Jensen *et. al.* 1996).

Geographically micro-watershed is considered as a sensible planning unit from a biophysical perspective. However, many have argued against the appropriateness of such unit for rural development. Rural planning is usually village based because one of the major aims of the development is to promote cooperation for the protection and rehabilitation of both private and common pool resources. Geographical boundaries of watersheds often do not coincide with village boundary. This often resulted in complex clashes of inter village interests. The majority of such projects, therefore, adopted an approach to rural development incorporating the principles of the watershed approach (Farrington *et. al*., 2000).

**b. Public sector investment in watershed development**

Over the last decade, the Government of India (GoI) has set aside substantial budgetary provisions for micro-watershed development. Through a range of schemes the government is investing over US $ 500 million per year into the rehabilitation and development of micro-watersheds. This programme had a budget of Rs. 133,800 million under Eighth Five Year Plan. By the end of the plan period, Eighth plan covered 2,554 micro-watersheds. During Ninth Five Year Plan, in 1998-99, the government allocated another Rs. 269 crores for micro-watersheds development under National Watershed Mission. In 1999, Central Government identified 100 priority districts to be covered within 3 years under Watershed Development Fund with matching assistance Rs. 200 crores each from Central Government and NABARD. As on March 31, 2004, Rs 154.61 crore has been added to the corpus fund by way of interest. Under this programme so far 284 projects have been sanctioned in 77 districts of 10 states (GoI, 2005: Website on watershed).

Ministry of Rural Development (MoRD), GoI, resolved to implement three programmes i.e Integrated Watershed Development Programme (IWDP), Desert Development Programme (DDP), and Drought Prone Area Programme (DPAP) according to watershed development concept. Till March 2004, MoRD released Rs. 191.36 crore against a budget of Rs. 430 crore under IWDP; Rs. 102.92 crore against a budget of Rs. 160 crore under DDP; and Rs. 156.20 crore against a budget of Rs. 210 crore under DPAP. Implementation of watershed based programmes were rather sluggish during 2003-2004 and as a result 22 states have not claimed any installment for 122 ongoing projects under IWDP and proposal for 82 new projects were awaited from 17 states (WDF, 2004: Website on watershed).

In Tenth Five Year Plan statement, GoI has accepted the fact that people's involvement was comparatively higher in NGO or locally initiated watershed development programmes than government's projects However Planning Commission resolved to pursue PWD in estimated 75 m. ha rainfed area with a stipulated Rs. 29,720 crore planned expenditure (Planning Commission, 2002).

**c. Watershed development in Jharkhand – A half hearted approach**

Jharkhand, the 28$^{th}$ state of the Indian union is by now almost five years old. As a nascent state it has enormous potential for watershed development. Jharkhand falls predominantly under plateau region. As per Hanumantha Rao committee's observation, watershed development would be the most appropriate measure to supplement the rainfed agrarian system. But so far government has paid a deaf ear to such recommendation. In contrast, to appease politics of vested interests, government talks of construction of one lakh ponds. Construction of ponds will serve little purpose unless a holistic soil and

water management practice is promoted under watershed development programme.

The second state irrigation commission identified 16 river basins that can be used for rainfed agriculture development. The commission has also assessed that Jharkhand has 5482 million cubic meters ground water resources and average stage of development of ground water is approximately 20%. With the huge ground water potential, state can go for 8-10 lakhs well construction. If such construction is tied up with watershed development programme, state can avoid the risk of any ground water depletion (Jharkhand Governance, 2005 Website on watershed).

However, Government of Jharkhand appeared to be moving in a snail's space. Under Indo-German watershed development fund, states like Karnataka, Maharashtra, and Uttarpradesh have identified 54, 55, and 37 micro-watershed projects respectively and most of the projects are in the verge of completion. In contrast, Jharkhand has identified only 2 projects under the same programme and in these two projects, not even 50% work has been completed so far.

Implementation of schemes under National Watershed Mission is in a more sordid state. This mission started in 1998-99 with a Central Government budgetary provision of Rs. 269 crores. While other states have completed many such micro-watershed projects under this mission, Jharkhand government has so far not claimed any achievement in this respect. During field visit in Palamu, Latehar, Ranchi and East Singbhum districts, author had observed that most of these projects were abandoned in half way either due to casual approach of district authorities, or due to callousness of implementing agencies mostly NGOs. NGOs, however, complained that they could not complete the task as DRDOs stopped releasing the fund.

However, there are some silver lining out of the lethargic approach. Jhrakhand Tribal Development Society (JTDS) has done some wonderful work in the field of PWD. Presently it has been supporting PWD projects in Ranchi, Saraikela-Kharswan, West and East Singhbhum districts. It has involved *Gram Sabhas* and other community members from the initiation of the project. Communities under the leadership of *Gram Sabha* planned all their activities, implemented all the activities and taking care of all follow up work. JTDS employed NGOs as facilitating bodies but transferred the money directly to *Gram Sabha*. Such effort not only ushered a decentralised regime in PWD but also empowered the communities in true sense. If this spirit is sustained, these PWD can be roll model both for Jharkhand as well as India.

## What is the comparative advantage of participation in watersheds?

Agenda 21 inspired projects to reach beyond individual farmer's approach. Previous approach normally focused on individually controlled pieces of land separately for project implementation without taking others in community into confidence. Project bureaucrats under that approach impress individual farmers to implement project components as per project blueprints. Such approaches are often misguided by professional biases thereby fail to address grassroots reality by incorporating the wisdom lies there (Chambers, 1997). Participation of locals can effectively offset such biases. The goal of PWD is to balance the production and conservation at many scales over short and long term planning horizons. Watershed unit is ideal for meeting these ends for two reasons. First, it designates a layered natural and social phenomenon for multi scale diverse users and complex resources. Second, such approach is readily appreciated by laypersons on one hand and policy makers, funding agencies on the other. From a biophysical perspective, a hrydrologically defined

watershed offers a balanced merger between small units of farmers' fields and large units such as ecoregions or biomass. Since water and land use have reciprocal effects, they should not be treated as separate development issues. Thus watershed concept widens the logistics framework to encompass cross-ecosystem linkages including upstream and downstream dynamics.

However, the assumption that a precisely defined geophysical unit also serves as a socio-political or economic unit for planning and management is clearly flawed. People do not live, or manage simply by how surface water flows although this can sometimes influence their decisions. Watersheds as closed human management units are external bureaucratic or researcher fantasies and not indigenous ones. Within or across the watershed boundaries exist various human settlements according to ethnic group, political boundaries, religious identities, preservation parks, or individual parks. Often, the function of a human community located along mountain ridges is to bridge two or more watersheds.

In the past, the tendency to give priority to the biophysical framework of watersheds justified a top down planning approach. Watershed planning based on land capability, rather than on the capacities and needs of the local people, who live there, typically promoted activities predefined by the outsiders for the insiders (residents of local area) (Chambers, 1997; Rhoades, 1998). Most of the time, this lack of fit between human and biophysical boundaries has caused tensions and antagonisms between insiders and outside watershed project managers (Datta & Virgo, 1998).

Solution to resolving the messy overlay of human activity and naturally defined watersheds is to combine watersheds with 'participations'. This means full involvement of local populations in the identification of priority problems and potential solutions with teams of

scientists, planners, and development specialists (Blackburn & Holland, 1998). The planning unit in this scenario becomes the human managed area, not the hydrological unit. Participation is thus billed as the antidote to the failure of centrally-controlled externally driven watershed projects with local ownership (Kerr *et. al*., 1996; Farrington *et. al*, 2000) (See Box 1).

**Box 1: Khariya Nala Watershed**

Kharaiya Nala watershed situated in the semi-arid part Bundelkahd region of southern Uttarpradesh with an average annual rainfall between 900-1000 mm. Watershed treatments closely involved communities concerned and also garnered the active support of Department of Agriculture and Indian Grassland and Fodder Research Institute, Jhansi. The treatments followed a typical ridge-to valley approach. The approach included contour trenches on the slopes, fencing of common land, regeneration of existing species together with supplementary planting of new species. Check dams were constructed on the main watercourses and gullies were plugged as per necessity. Soil and water conservation measures were undertaken on the agricultural land. As a result, cropping intensity was increased so also irrigational coverage.

Watershed management activities resulted in (i) reduction of runoff loss on barren hills from 70% to 22%, and soil loss from 41 t/ha to 1.9 t/ha, (ii) increase in water table from 12 m depth to 6 m depth within three years, and irrigated area from 9.6% to 69% of cropped area, (iii) cropped area during *kharif* and *rabi* season increased by 85% and 233% respectively. Besides these, project reduced firewood requirement gap from 89% to 15% by means of energy plantation and thereby reduced the use of cow dung as fuel by 62%.

Project immensely benefited the people economically. Socially it infused high degree of solidarity and enhanced the capacity of villagers by empowering them to make project plan and implement the plan.

Source: Hazra (1998)

Local people, however, are not the only key actors in PWD. It also requires the involvement of NGOs, government agencies, universities, and international bodies in the participatory brew. Yesteryear's top down approach and NGOs transmitting information approach are now replaced by critical involvement of both grassroots workers, land users and outsiders mutual planning process. These two way communications have been enriching the knowledge and understanding of both insiders and outsiders about watershed development projects.

## Does PWD suffer from methodological weaknesses?

Project experiences suggest that designing and implementation of PWD faced several difficulties. These can be classified into three categories viz. technology, participation of stakeholders, and assessment of criteria.

**a. Technology**

Technologies are limited for successful watershed rehabilitation in the arid zone (having annual precipitation below 400 mm) and semi arid regions. It may be over ambitious to expect watershed approaches to enhance livelihoods to any degree in these regions. Such problem becomes acute in areas having high population pressure in relation to natural resources. In such cases, area adaptive research is required to tailor the available technologies according to local conditions.

**b. Ridge-to-valley approach**

Watershed development work begins from the lands in the upper slopes. This has three distinct advantages:

1. the landless and low income group farmers who depend most on the upper slopes can benefit first;
2. ground water recharge commences at the shortest possible time;

3. by the time the lower catchment is treated, any debris and erosion running down from the upper catchment has been minimized.

However, most often part of the land in the upper slopes is under the control of Forest Department. These lands can only be used or treated if Joint Forest Management is established. In many places setting up of JFM has several encumbrances.

Further, as per government directives prohibits the same kind of project activities operating in the same area. For this reason, only one watershed can have ridge treatment if the projects are running in two adjacent watersheds.

**c. Difficulties in achieving even modest levels of participation**

Government projects, schemes and programmes generally aim to achieve a moderate functional degree of participation and yet have been characterized by a number of difficulties. For instance, projects under the National Watershed Development Programme for Rainfed Areas are designed largely on the basis of technical norms, with very little participation by local people (Farrington *et. al*, 2000). Another review (Turton *et. al*. 1998), however, suggests the public sector faces several challenges. These are (i) pressure to spend substantial resources by a fixed deadline, (ii) limited time permitted for preparatory activities like group formation, (iii) unclear selection criteria for areas and villages to be rehabilitated, and (iv) limited human resource capabilities to respond to novel and challenging requirements. Krishna (1997), based on a performance appraisal of local government in Mehbubnagar district of Andhra Pradesh, reported that numerous pressures caused officials to shortcut participatory processes. Krishna also noted that officials most often operate on part time basis and showed little concern to abide by GoI's common guidelines to embrace an approach to adopt decentralized

and participatory watersheds development planning and implementation.

These methodological weaknesses are hampering the implementation of PWD in many states of India. If success is to be sustained and to be spread quickly to other areas, new partnership needs to be developed. This partnership should include, central and state governments, district administration and *Panchayat Raj* Institutions on one hand and NGOs, local leadership and communities on the other. This implies a move away from enclave projects by donors towards a stronger learning process with decentralized and flexible project governance.

## How can an appropriate balance between interests of stakeholders at a local level be achieved and how can the interests of the poor be represented?

### a. The concern

The search for equitable approaches to watershed development is driven by two main concerns. First, that the poor own only limited private resources, but generally have rights of access and usufructs to the commons on which their livelihood heavily rely. The commons constitute a high proportion of a watershed unit in many semi arid areas, and under current government policy will remain as common pool resources even in foreseeable future. Poor households depend more on the commons than the rich in the areas. They receive bulk of their fuel supplies and fodder from commons. Collecting products from the commons is a major source of livelihood and income for the poor particularly at the time of difficulties and hardship.

Second concern is that there are important linkages between equity and sustainability, both institutionally and environmentally. If the poor are unable to maintain or enhance their livelihoods through access to existing benefit streams, their tendency would be to break the common pool

arrangement and make it **free-for-all** or **open access resource**. Similarly, if common pool resources are taken over by the wealthy people, they would try to privatize it by using public funds and political influences. In such case it would face larger threat from a growing externalities (Jodha 1986; Sinha, 2005).

**Box 2: Unequal Social Relations in Western Orissa**

In a field study during mid-1998 in Bolangir and Nuapada districts found the following:

- high rates of interest, chronic indebtedness and the bonding of both land and labour by moneylenders;
- control by powerful few over seasonal migration to urban areas, so that little remains once accommodation and travel costs, and advances have been deducted;
- the all pervasive strength of the caste reinforcing Jat Samaj, which enforces decisions on disputes over land and domestic matters;
- a long history of dependency by people on relief interventions from government;
- often a wide gap between what is allocated to the poor and what is actually delivered. For instance only 10 days wage labour is offered as against promised 100 days of employment guarantee;
- little accountability by the *Gram Panchayat* to the *Gram Sabha*, and unremitting pressure to deliver block votes to members of the state legislative assembly and others.

Source: Baumann, 1998

In India, although proportion of poverty has decreased by 30% since independence, the absolute number of poor people has doubled. Increasing population pressure has in some cases led to break down of traditional common pool arrangements and thereby created a vicious cycle of poorly managed open access arena. Taking the advantage of such situations outsiders often nurture biases against

poor. These biases can be technological, investment oriented and capital formation (see Table 1 & Box 2).

**Table 1 Classification of biases against poor in the watershed development**

| Biases | Nature |
|---|---|
| Technological biases | Over emphasis on water harvesting structures likely to be useful to better off farmers in the lower slopes,<br>Under emphasis on soil and moisture harvesting measures in the upper reaches,<br>General disregard of indigenous approaches to soil and water conservation |
| Investment biases | Disproportionate amounts are spent on private lands, usually located in the more productive lower lands within a watershed, and usually owned by the relatively wealthy |
| Capital formation biases | Opportunities for savings and credit, the creation of assets and infrastructure, the creation of human capital (leadership skills), and institutional and social capital are all biased towards the wealthier areas and individuals within a watershed,<br>Skills in, for instance, assertiveness, leadership, and conflict resolution are rarely found among the weaker sectors |

Source: Mascarenhas, 1998

However, the key step to a win-win game is the creation of equitable and transparent institutions to manage the commons. Once these generate additional benefits, a number of positive, economic and social effects will follow. Here we present two case studies of PWD to show how equity issue has been addressed.

**b. Government guidelines on equity**

There two main sets of guidelines for watershed development at the central government level: (i) guidelines for National Watershed Development Programme for Rainfed Areas (NWDPRA) under the Ministry of Agriculture and Cooperation; and (ii) guidelines of Ministry of Rural Development (MoRD) (the common guidelines of 1994). The NWDPRA guidelines contain no specific provisions concerning poverty and equity. The Common Guidelines of 1994 governing projects, programmes and schemes under the MoRD are based on NGO experience. They are in many respects similar to the guidelines governing the projects implemented by NGOs and funded by the CAPART (Council for Advancement of People's Action and Rural Technology). Some of their provisions are as follows:

- it suggests government's participation in people's programme rather than other way round (section 7);
- it emphasizes on improvement of social and economic conditions of resource poor and the disadvantaged through equitable distribution of benefits of land and water resource development (section 14);
- it stresses upon the participation of all groups in decisions on rehabilitation, and their willingness to undertake maintenance of the assets created by means of Self Help Group or other suitable means;
- it expects that village having large proportion of SC, ST and other marginalized castes or religious groups should be selected for PWD and key office bearers should be selected from SC, ST or marginalized sections (section 25);
- it urges that the priorities of PWD must be in consistent with needs of the poorer section (section 72);
- it suggests the inclusion of 30% women representation in watershed committee (section 37);

- it welcomes the active participation of *Gram Panchayat* in watershed development planning, implementation and monitoring.

**c. Eliciting participation: Initiative of Rural Development Trust in Anantapur**

Reddy (1998) reported the case of watershed rehabilitation under Rural Development Trust Anantapur. The trust selected the village on the basis of two sets of indicators viz. biophysical (includes rainfall, sediment yield, vegetation, groundwater level etc.) and social (includes literacy, landlessness, problem of drinking water etc.). Besides these, the trust also considered some success factors for watershed development projects. This they did by carefully studying the success and failure story of various watersheds projects. They found that collective leadership and solidarity were very critical for effective watershed development. Anantapur was selected provisionally on the basis of above-mentioned indicators.

In the village meeting, farmers and users group were formed. These groups then jointly selected the activities to be undertaken for their PWD. Activities included soil and moisture conservation (contour bunding), rainwater harvesting (check dams) and afforestation. These activities have been carried out in the village for past 50 years but not in an integrated manner. Once farmer selected the activities and decided upon the budget, they were asked to share 10% of the project cost. They were surprised as they never seen nor heard of any project which demanded local contribution. This was a sign of strong dependency syndrome.

In addition to this, farmers and users groups were told that the cost of any activity like horticulture, irrigation bore wells, crop investments to be undertaken on private lands, would be entirely borne by farmers/users. Subsidies would be given only to marginal and small farmers. After initial hiccups, villagers accepted the terms and condition

and ensured that all activities were carried out in cost effective manner. After few years, it was found that villagers started many new activities by their own without taking any external help.

**d. Eliciting participation: Experience of DANIDA supported PWD**

As per the 1990 policy document of the Danish Development Assistance (DANIDA), the reduction of poverty is one of the core objectives of the Danish Development Cooperation. This principle is emphasised in the new development strategy of the organisation. In consonance with this policy, attempts were made to follow participatory approaches in watershed development. Key characteristics of the participatory approaches are as follows:

*Socially balanced economic growth*: DANIDA emphasized that the rural poor, landless, marginal farmers, village artisans and women-should participate in PWD in a fruitful manner. Watershed development used to be a land-based activity with benefits shared in proportion to the size of the landholdings of different families. This approach used to offer comparatively lesser benefits to the rural poor.

In contrast, DANIDA projects followed biomass-base watershed-development principle. Primary aim of this system was to promote the livelihood-support systems of the weaker sections. Such effort promoted biomass processing, cottage industries, rearing of small ruminants, backyard poultry, kitchen gardening, bee keeping, etc. in which rural poor also participated in a meaningful manner.

*Sustainability through mainstreaming*: To sustain participatory organisation, process and mechanisms after the project ends, attempts were made to mainstream the system created by the project by involving government line departments, credit institutions, etc. so that the project areas did not stand in isolation.

*Participatory approach: Dynamic and evolving process*: With growing experiences of strength and weakness of PWD approach, the processes and systems were being appropriately modified, restructured and evolved to support the basic purpose of participation by all sections of the watershed community.

*Approach rooted in the socio-economic setting* Different variants of participatory approach were followed in view to the diversity in village power structures, the social compositions of local populations, literacy levels, levels of technology absorption, etc. Financial assistance was given in a phased manner, so that more powerful villagers did not see large amounts of money available for expropriation. The executive committee members were changed after an agreed period (two years in some projects) to prevent monopoly of few in participatory institutions.

***Participatory approach in different DANIDA PWD projects***

*Karnatka PWD*:

*Phase I*: This project was formulated in the late 1980s and launched in 1990. The first phase lasted from 1990 to 1996. Initially, people's participation was consultative in nature. However, in 1993, the participatory approach was intensified and accelerated. The basic strategy was to develop the capacity of the implementing agency, The State Agricultural Department. They were encouraged to promote the participatory approach within the department, rather than assigning social aspects to NGOs. Junior project officers were recruited, trained in social methodologies (extension techniques, participatory rural appraisal, rapid rural appraisal), accounting, group dynamics, organising people, etc. They were then deployed for full-time to encourage participation.

The junior project officers organised village meeting and selected two volunteers as 'link workers' (one

man and one woman) to serve as a kind of spearhead group. Watershed development committees were constituted in each village. The technical staff, junior project officers and the watershed development committees jointly planned, implemented and monitored activities. At the watershed level, a watershed operation group provided a forum for representatives of village watershed development committees, elected members of *Panchayati Raj* institutions, and selected heads of the line departments (forestry, horticulture, etc.). Forum was used for discussion and for recommending plans for approval by the district co-ordination committee under the chairmanship of the chief of the *Zila Parishsd.*

*Phase II*: Based on the experiences gained in Phase I, the participatory process was refined, fine-tuned and re-structured in the following manner:

1. *Broad-based, representative participatory organisations*: Under this process, self-help groups, user groups or groups around common interests (gender, occupation, landholdings social classes) were constituted ahead of formation of village watershed development committee or VDC. Thereafter, VDC was formed by including one representative from each group. VDC also included elected village *Panchayat* members. These members then elected the executive committee of VDC.
2. *Rotational leadership*: Executive committees of the VDC were rotated once in every two years.
3. *Intensive and structured training*: An elaborate training schedule was adopted, indicating various stages and steps for participatory learning, planning, implementation, monitoring and evaluation. This enhanced the capabilities of all the stakeholders (project staff, members of the self-help groups, and watershed development committees) in technical, social and financial aspects of the project and also in record keeping.

4. *Operational VDC*: VDCs with 20-25 members were operational and more effective. Two or more VDCs were constituted according to the size and diversity of the village whenever it was necessary.
5. *Clarity of roles, responsibility and accountability*: Clear roles, functions and accountability modes were jointly worked out for the different stakeholders.
6. *Village general body*: A village general body comprising one representative from each household was organised. Once in every six months, VDCs and project staff presented their action plan to the general body.
7. *Preparation for participatory approach*: The first year of the project was devoted for organising self-help groups and VDCs, participatory training, conducting participatory rural appraisals, and developing plans.
8. *Financial responsibility*: VDCs were given funds to implement all works on common lands, and to keep records. Individual land owners were given funds for implementing works on their own lands in instalments.
9. *Participatory monitoring and modifications*: Self-help groups, VDC and project staff undertook periodical self-evolution exercises and made modifications to remove the bottlenecks and to resolve conflicts.

## How can the capacity of individuals and organisations at all levels be raised so as to enhance the qualities of implementations of PWD?

Having discussed the comparative advantages of participation in PWD and how the interest of poor and marginalized can be safeguarded in PWD, we will now focus on how the capacity of both individuals and organisations be enhanced. In order to do so we shall divide the discussion into four parts viz. capacity building provisions of the 1994 common guidelines, review of 1994

guidelines, recommendations of the Eswaran committee, and the approach of Outreach, a NGO.

**a. Capacity building provision of 1994 common guidelines**

The 1994 guidelines represented a major shift in the philosophy of rural developments from a centralised approach towards decentralised and participatory approaches. Knowing that such sift would demand additional managerial and technical capability, provision of capacity building trainings were made in the guidelines. For example, paragraph 44 of the guidelines makes provision for the training of watershed users, the secretary and the volunteers in the technical aspects of *in situ* soil and moisture conservation, the operation and maintenance of civil works, nursery and plantation management, livestock and fodder management. It also covers the setting up and management of groups, conducting meetings, maintenance of accounts and procedures for execution of civil works. Further, paragraphs 61-65 of the guidelines cover the training of the watershed development team.

The state governments were given the responsibility for arranging these courses by commissioning state or national institutions to carry them out. State government were expected to ensure that the trainings were conducted in participatory manner through interactive sessions on field-based problems. Guidelines recommended that the State Institute of Rural Development (SIRD) in each state should be given the responsibility of designing and conducting such trainings. In the long run, it envisaged that the SIRD would build up their own cadre of faculty members with both permanent and visiting scientists and experts.

**b. Review of implementation of the 1994 guidelines**

The review of implementation of the common guidelines by Turton *et. al*. (1998) suggests that the guidelines

severely underestimated the range and depth of trainings that would be required. In particular, sufficient skill development is essentially required to meet the challenges of developing watersheds in an institutionally and environmentally sustainable fashion. Managerial skills are also required to protect the interests of women and the poor adequately. Even in the most favourable circumstances, this would be a daunting task. However, the prospects of achieving it are severely diminished because of:

- the chronic shortage of social-science perspectives and skills among (especially) government department staff at the local level;
- the lack of gender awareness at all levels of training;
- the continuing lack of expertise in participatory methods, gender, group formation, etc. among trainers in the training institutes identified for this work;
- the lack of training to sensitise the Collectors and other DRDA staff about the benefits of and needs for participatory approaches;
- the absence of programme to assess the current skills and training needs of rural women;
- the lack of a forum for state level functionaries to exchange ideas and discuss strategies on watershed development;
- the absence of any competent course on watershed development in the university curricula both for engineering and agriculture.

Clearly public sector reform will have to address these issues to enhance the prospects for successful large scale training, careful the capacity of long term monitoring of performance, and the standards of trainers.

**c. Recommendations of the Eswaran committee**

In 1997, MoRD, GoI commissioned a team to review the training arrangements for all watershed

development projects, programmes and schemes. The team was headed by V. B. Eswaran and was also requested to review the utility of 1994 guidelines. The Eswaran committee found that training provisions of the 1994 guidelines were mostly not opted for, and where trainings were organised participatory pattern was mostly not followed. The Eswaran report recommended a range of improvements. Main features of the recommendations are mentioned below:

- the increased representation of women in various committees of watershed development;
- improvement in the emoluments of watershed team members in order to attract appropriately qualified and experienced persons;
- increase the provision of cost of works by approximately 50%;
- increase the formative period of SHG so that they become self reliant in decision making;
- for micro-watershed, committee recommended one day workshop to sensitise village level government functionaries, shorter duration training for few hours in the evening (on a fortnightly cycle) for user groups, self help groups, women's groups, and members of watershed association. It also recommended two days training on aspects of watershed management for members of the watershed committee and two weeks duration training on the same aspect in an elaborative manner for watershed secretaries.
- Committee suggested one week training for members of the project implementing agency from an appropriate institute on the watershed development programme in general, and on technical aspects of the programme in particular. It also suggested a three week training programme for members of the watershed development team.

- for block and district levels, committee stressed on the need to build up community organisation for handling technical issues and ensuring sustainability. For this reason it recommended appropriate trainings for block and district level officers in which the trainees to be drawn from block/zila parishad, DRDAs, or line departments.

The Eswaran committee endorsed the provisions of the common guidelines for a massive programme of training of trainers. It placed the major responsibility with the SIRD, and also stressed the need for inclusion of NGOs in complementary fashion. It argued for a fixed tenure of SIRD head and recruitment of expert trainers for watershed management trainings. Committee expected central government to bear 80% of infrastructure and training cost but asked the states to prepare action plans for watershed development.

Committee proposed the formation of a national standing committee for evaluation of all centrally supported watershed development programmes, and a state/district level sup committee to monitor the implementation of the training as well watershed development activities.

**d. Capacity building process: The Outreach approach**

In Outreach experience, there was now spontaneous adoption of participatory approaches by communities near our projects, reported Mascarenhas (1998). Series of requests and applications were being received by the organisation from neighbouring communities to start similar activities in their village on the same terms. Several key issues must be addressed to ensure the sustainability of participatory approaches.

***Training and human resource development***

Organisation tried to address the needs of watersheds communities through training and human resource development measures. This touched upon a range

of topics such as communication and listening, sensitivity, interpersonal relations, leadership, teamwork, and so on, which empowered individuals. Individual empowerment thereby enhanced the quality of the outputs of other individuals and organisations. Organisation felt that a culture of participation and sharing was very important within and between the development agencies in order to elicit community participation.

***Developing a learning process***

In the past, many projects on natural resource management and rural development had pursued an inflexible blueprint approach. This approach among other things, has hindered experiential learning by restricting the documentation and reflection on experiences, discussion and analysis the project design, and the scope of revision of project. Experiential learning implies different agencies working together as teams, sharing their experiences and developing a common understanding vision and approach. Most of all it implies a sensitivity to what client communities are saying and a response to their needs and suggestions in the context of natural resources management.

Outreach laid the foundation of experiential learning conducting village based participatory workshops (participatory rural appraisals). During these sessions, watershed communities and staff of various agencies tried to arrive at an understanding of indigenous technologies and systems of management developed and used by the community over time. They also tried to understand how the community viewed the project and how project was impacting on them. The future approach of the project was derived from this knowledge.

The exploratory exercises in these appraisals were powerful. They generated information on trends (historical transects, trend diagrams) in resources use, land based and non land based livelihood systems, the status of resources

and patterns of their use, relationships of the watershed with the main village and neighbouring villages and seasonal patterns of activities and events. They also provided a range of socio-economic information on wealth ranking.

Similar kind of participatory interaction was also encouraged amongst staff of development agencies. Experiences of watershed development were shared during such interaction. The shared understanding of the project allowed organisations to carry out mid-course corrections or minor adjustment consistently. This in itself was major contribution of experiential learning towards sustainability.

***Institutional arrangements***

Appropriate institutional arrangement is an essential prerequisite to initiate participation process in natural resource management. Institutions foster collective actions and bind individual under mutually reinforcing agreement. Outreach identified two types of institutions that needed to be linked and interfaced with each other. The first was at the level of the community which started with various self help and user groups. These needs were in some way federated at the watershed and regional levels, and also formed some sort of linkage with the local *Panachayati Raj* institutions. A common error in natural resource management and other rural development project was that the withdrawal and handing over process begun towards the end of the project. As a result, local community institutions did not develop the basic capabilities that were required for post project management period. This resulted in repeated failures of projects. The development of apex community institutions, capable of carrying the resource management process forward on their own, is therefore, an important precondition for sustainability. Outreach practised this both on principle as well practice.

A second set of institutions consisted of all those involved in project implementation (external stakeholders)

such as local government and other government departments at different levels, NGOs and funding organisations. Each of these institutions had a role to play in natural resource management projects as each one bring with it certain strength and areas of expertise. Whatever the type of interaction adopted it was important for Outreach that two things be given top priority the capacity building of various institutions in relation to participatory natural resource management and constant steady attention to the interests of women landless and other marginal groups.

***Policy framework***

It was important for Outreach that the lessons learnt from various natural resource management project be distilled and fed back into the policy level. Policy markers also needed periodic exposure to the field in order to observe and understand processes that were taking place there. This not only included bureaucrats and senior members of funding organisation but also elected representatives of local government and members of the political executive. The orientation of this group was an important input in natural resource management projects.

## Conclusion

Participatory approaches imply a major, but not exclusive role for local populations in allocating rights and responsibilities over resources in watershed area. It may involve partnerships with other interest groups at micro and macro levels, such as district line agencies, local political bodies, bureaucrats and policy makers. A key concern in micro-watershed development is to identify approaches that can ensure interface among rural people, project managers, local political bodies, bureaucrats and state.

This requires capacity building of all parties in order to appreciate and comprehend each other's views, wisdom, experiences and survival mechanism. Appropriate training mechanisms need to be worked out.

Notwithstanding 1994 guidelines and recommendation of Eswaran committee, training and capacity building need for PWD were given low impetus. This resulted in lower accountability of project managers and policy makers to the target beneficiaries of PWD. Implementation of PWD in India is less than satisfactory in many states like Jharkhand. JTDS model, and approaches of Outreach or Danida can throw much light as how to develop a proper project framework for efficient implementation and management of PWD.

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