

WORKING WITH UNEQUAL PARTNERS

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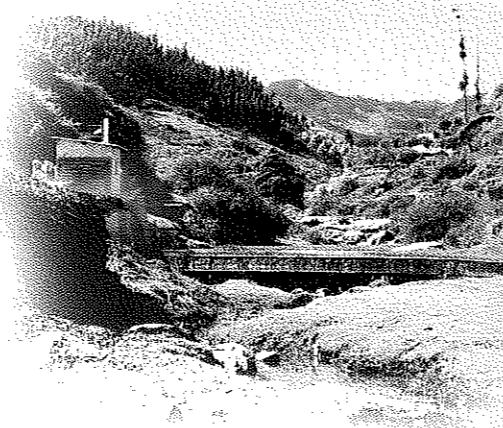
INTRODUCTION

The crux of any watershed management project is that it should have two basic components:- natural resources management and improving the living conditions of the people. Both these aspects need to be given due weightage as they are complementary and reinforce each other. Should one aspect be neglected, the other too runs the risk of falling flat on its face. One consciousness that underlines the planning for any activity is that the changes that are sought to be brought about, whether they are natural resources management concerns or those concerning improvement of livelihood, they are for the people and in turn the people themselves are the agents of any type of change, positive or negative. Thus the involvement and participation of the people in any activity becomes a basic issue and needs to be ensured right from the beginning.

Once the fundamentals are in place, the means of achieving the goal have to be considered. The case of the Indo-German Bilateral Project "Watershed Management" (IGBP) was in some manner unique. It had started initially with the precise objectives of hydrological monitoring and assisting the Government of India (Ministry of Agriculture, New Delhi) in its erosion control activities. At that point the approach was purely technical and the project worked only with the Ministry of Agriculture. Even today, the primary concern of the project remains soil and water conservation. Soon, however, it was realized that it was just not enough to record data and carry out calculations, the need of the hour was to provide inputs/interventions that could halt or reverse certain processes and bring socio-technical change. The focus then shifted to the people, on their activities, their limitations, their conditions all of which were to a large extent responsible for the existing or deteriorating conditions as the case may be.

THE SETTING

In 1992, at the invitation of the Ministry of Agriculture, New Delhi, the project launched the Representative Watershed Programme (RWS) in five selected watersheds belonging to different agro-climatic regions of the country. The areas covered by the project display wide geographical diversity, from the Chhotanagpur plateau of eastern India to the foothills of the Himalayas in the north and the hill regions of peninsular India to the south. The social settings range from tribal habitats to complex case-ridden villages. Economic diversity among the population adds another dimension. It includes rich farmers to landless people of the watersheds as well as seasonal migrants. The IGBP efforts were then directed towards finding innovative watershed management techniques/inputs that could be sustained and widely replicated at various parts of the country. As sustainability and replicability of activities were key issues, and people's participation an absolute requirement, the project decided to identify and involve partner NGOs in each of the 5 RWSs. These NGOs which had experience in working with the local people would work towards raising awareness and ensuring participation with the ultimate aim of building up strong community-based organizations which would be able to take care of all watershed activities after project withdrawal. It is obvious that at this stage,



there was a definite change in the working set up. A new entity in the form of the NGO had been introduced and it was imperative that all partners work in cooperation and coordination if some degree of success was to be achieved. While all partners of the project had a common goal, they had differing priorities and methods of work. Even in the initial stages certain positive aspects and drawbacks of the two partners were recognized.

Non-governmental organizations

- NGOs could play significant roles both as catalysts and implementers, that may be helpful in the development of people's participation. However, NGOs are not substitute for government organizations, especially in the task of infrastructural development. NGO presence within the village community can ensure people's involvement. It may be pertinent to mention here that NGOs are more successful in pilot projects than when the activities are taken up on a wider scale.
- Closer linkage between NGOs and Government agencies could facilitate watershed management programmes as a combination of social and technical approaches. Lack of in-house technical capabilities leaves loopholes in project planning by the NGOs.
- NGOs conceptualize watershed management as a social development programme, laying less emphasis on soil and water conservation.
- Most NGOs are one-man shows, where all the ideas and knowledge remain with the head of the organization.

Governmental organizations

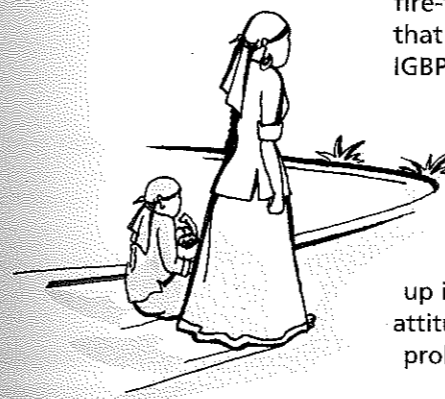
- A watershed management programme is by its very nature multidisciplinary and often requires inputs from more than one department. This is generally difficult to obtain.
- A socially-oriented approach at times does not gel with the technical outlook of the government departments.
- The government set-up often does not encourage officials to take risks and initiative though there are individual capable officers. There is a lot of accountability in the government system but few rewards for successful innovation.

Given the very divergent backgrounds, attitudes, experiences and methods of work, to expect that it would be smooth sailing all the way would have been foolhardy. The project thus needed to come up with certain in-built mechanisms for the resolution of conflicts that were bound to surface in the day to day functioning of the partners – the State Government Department in each watershed and the concerned NGO. Moreover, these needed to be anticipated in advance so as to provide a basic framework within which they could be resolved rather than become fire-fighting arrangements. The framework and understanding needed to be such that major flare-ups would not have an opportunity to occur. The onus was thus on IGBP to evolve a framework of functioning and conflict resolution.

THE PROBLEMS

Various types of problems crop up in the implementation of project activities in the different RWSs. Some of these emerge from the divergent outlooks of two different entities with different methods of functioning, while others come up in their day to day interaction. The latter usually have more to do with the attitudes of specific people than with the organizational structure. Some of the problems and issues that were encountered are:

Closer linkage between NGOs and Government agencies could facilitate watershed management programmes as a combination of social and technical approaches



- The government departments in the states have to work within the guidelines set down by the Ministry of Agriculture under its RVP/FPR programmes. Thus their activities have to be structured in terms of physical and cost norms. Given this framework, there is very little scope for innovative activities.
- The government departments lay more emphasis on meeting the financial and physical targets that have been set down than on a people-oriented socio-technical programme. On the contrary, the NGOs focus their efforts on social development programmes. The concept "Watershed Management" which envisages a socio-technical approach for a more holistic development of a given area is still relatively new for the NGOs.
- Often the SGD and NGO officials see each other as competitors or even as threats, rather than collaborating partners with a common goal. This acrimony often stems from the nature and scale of their operations. NGOs generally concentrating on a smaller area and over comparatively longer time spans can often show better results. The SGDs generally have to cover a wider area within a shorter period of time and a handful of officials. Moreover, at times they fail to build a rapport with the community, which will be ultimately responsible for the upkeep of government efforts and interventions.
- There are problems in giving the community the responsibility and management of common property resources. The ownership of community assets by the local population is also a problem-ridden issue.
- In a participatory watershed management project the major strength lies in the leadership which emerges from within, which could mobilize the people and channelise efforts and resources even after the project period. Such leadership is often not available.

THE CONFLICT MANAGEMENT AND RESOLUTION MECHANISM

The project anticipating and accepting these limitations and hurdles in working with unequal partners, sought to have in place some definite parameters which would act as buffers to fall back on should a situation of conflict arise as well as act as pointers in the intended direction.

The strengths and weaknesses of both the players were analyzed and translated into operational guidelines for more focussed operation as the Guiding Principles of the Indo-German Bilateral Project "Watershed Management" (Box 1).

Guiding principles

The Guiding Principles for the Representative Watershed Programme are meant as guidelines for realizing the desired objectives, eliminating scope for clashes and setting out precise requirements. Some of these are:

- The SGDs and NGOs must maintain their focus on soil and water conservation activities that are of central concern and importance to the Project;
- The SGDs and NGOs are expected to work mainly in their fields of experience.

To give an idea of the timeframe, the guidelines lay down that the NGOs must begin their activities ahead of the SGDs, preferably a year, to prepare the community for the different activities.

The long term objective of both SGD and NGO is the development of watershed committees and towards that end, they should direct their efforts right from the beginning.

Box 1

GUIDING PRINCIPLES FOR WATERSHED MANAGEMENT PROGRAMMES

The following set of guiding principles are prepared to serve the State Government Departments (SGD) and Non-Governmental Organizations (NGO) in developing their plans and proposals and to serve while implementing the watershed management programme:

1. *The SGDs and NGOs will elaborate jointly on an annual basis a plan of action and keep each other informed on the progress of their work on a regular basis.*
2. *The SGDs and NGOs must maintain their focus upon soil and water conservation activities, that are of central concern and importance to this project.*
3. *No activity of SGDs and NGOs must cause harm or damage to the natural environment or cause further natural resource degradation.*
4. *The programmes and activities should also focus on the needs and problems of landless farmers (on a priority basis).*
5. *Development of networking Self Help Groups with strong womens participation is expected to be a main activity of the NGOs.*
6. *Assets and infrastructure created by NGOs should be in the name of local institutions which have a strong women participation.*
7. *The partner organizations should not promote economically unviable activities which focus on improvement of livelihood conditions and depend thus primarily on subsidies and sponsorship.*
8. *Beneficiaries of the programme are expected to make contributions by way of cash, kind or labour. No activities with immediate direct tangible benefits must reach the beneficiaries totally free of costs.*
9. *State Government Departments and NGOs are expected to work mainly in their field of experience.*
10. *Within a given watershed, the NGO should begin its activities ahead of the SGD, having a lead time for preparing the community, explaining the objectives and mobilizing their participation, preferably 1 year.*
11. *The activities must be based on principles of sustainability, equity and social justice. The partner organization must strike a balance between developing community resources and providing individual benefits. Individual benefits to rich farmers that perpetuate the resource gap between the rich and the poor are to be avoided. Greater emphasis should be laid on developing community infrastructure and resources. Access of poor farmers/ villagers over such facility must be ensured.*
12. *The long term perspective of the State Government Departments and Non-Government Organization should be the development of a watershed committee in which all main socio-economic groups of the watershed will be represented and which will take care of watershed management activities beyond the project period.*

Memorandum of Understanding (MoU)

The Memorandum of Understanding (MoU), that representatives of both SGD and NGO must sign as they embark upon the programme in their respective watersheds stress the aspect of cooperation between the partners. The rationale for cooperation is to combine and utilize the respective experiences and strengths of the partner organizations towards the common objective of watershed management. While reiterating the necessity for combined efforts of the partners, the division of labour between the two organizations is expressly recognized so as to avoid competition and overlap.

There should be an atmosphere of mutual respect, understanding and transparency in the partners' dealings with each other. The activities in the watersheds must be planned by SGD and NGO through mutual consultation.

Meetings

Meetings have been given a place of importance in the MOU. The partners should meet at least once a month and the minutes of these meetings must be sent to the project headquarters and to the Ministry of Agriculture. To ensure a closer relationship, these monthly meetings should be convened alternately by the partners.

The IGBP will convene meetings to discuss progress on a half-yearly basis which will be attended by representatives of both SGD and NGO. Every quarter, a joint action plan will be worked out by the partners in consultation, with guidance from the IGBP.

The organizing of watershed committees has been expressly mentioned in the MOU. In this activity a combined effort is definitely required. While the SGD constructs physical structures and carries out soil and water conservation activities which are of a technical nature, the NGO must prepare the community to take these over and ensure their smooth and sustained functioning. Since it is the basic goal behind all watershed management activities, this is a crucial area of cooperation.

Apart from the documents just mentioned, there are formats which set down targets both physical and temporal. These should help in eliminating any misunderstanding amongst the partners. Moreover, details of progress made in various activities or difficulties encountered in implementation are sent to the IGBP office in the form of quarterly progress reports or half-yearly reports. These keep the partners abreast of the latest developments as well as making possible necessary adjustments.

While all these safeguards are taken to create an amicable atmosphere for the collaborating partners, we must admit that there have been times when the system has limped on weak legs. Regular field visits by project staff have on occasions been able to bring forth a better working relationship among the partners and to appreciate each others' viewpoints.

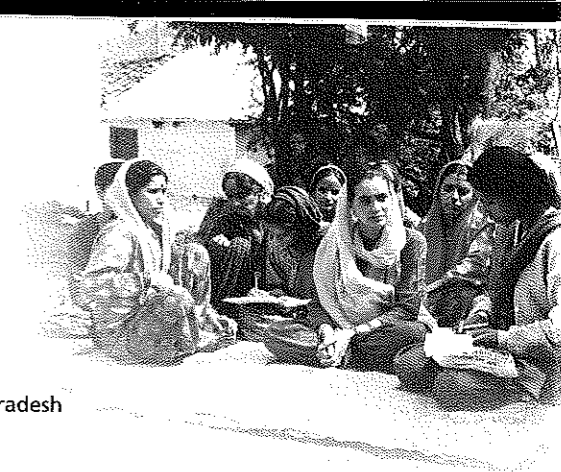
CONCLUSIONS

While a few safeguards have been laid down to address the basic shortcomings, the success of our endeavours in the sphere of ensuring people's participation in the watershed management programme is something that only the future will tell us.



SOCIO-TECHNICAL CONCEPT FOR REHABILITATION OF DEGRADED WATERSHEDS: COMMUNITY FORESTRY IN CHANGAR PROJECT

Rajan Kotru • Indo German Changar Eco - Development Project • Palampur • Himachal Pradesh



INTRODUCTION

Watershed management as per the largest donor - the World Bank (1993) is defined as a process of formulating and implementing a course of action that involves a region's natural and human resources taking into account social, political, economic, environmental, and institutional factors operating within the watershed, the surrounding river basin and other relevant regions to achieve desired social objectives

In recent years watershed development has been globally considered as a comprehensive approach to stabilize the environmental degradation caused by unsustainable natural resource management. This has led to a deep interest among countries with substantial hilly and mountainous terrain to support watershed management as an approach for sustainable development. Watershed management as per the largest donor - The World Bank (1993) is defined as a process of formulating and implementing a course of action that involves a region's natural and human resources taking into account social, political, economic, environmental, and institutional factors operating within the watershed, the surrounding river basin and other relevant regions to achieve desired social objectives. It is obvious that the various project objectives, inter alia, ecological rehabilitation, community-based resource management and economic improvement can come within the wide-ranging scope of the above definition. Especially the Himalayan region as the mightiest 'Watershed' has an area of 3.4 m. sq. km a considerable portion of which is within Indian territory. India has sensed the potential of good watershed management in sustainable development. This is evident from the fact that it is annually investing ₹300 m. to enhance the livelihoods of people in an institutionally and ecologically sustainable manner through rehabilitation of microwatersheds (Turton and Farrington, 1998). In fact, watershed management as an integrated approach to combine conservation, water and vegetative resources with increased yields and reduced risks in dryland farming, has been promoted in India for the last 15 years (Adolph et al, 1996).

Global experiences

Along with the positive impacts of many projects (e.g. Ralegan Siddhi, Kasare, Watershed Organisation Trust (WOTR) in Maharashtra state of India) negative experiences were also reported from India and other countries: Adolph et al. maintain that the results could be short-lived (e.g. maintenance problems) and scattered (e.g. limited to project area). Almonte-Mella et al. (1996) mentioned that traditionally project management has been vertical and farmers have just been spectators or workers in the projects. In India, Mascarenhas (1996) asserts that Watershed Development (WSD) does not happen just on its own - it has to be made to happen. Moreover, the community participation in WSD activities is a critical and complex issue and aspects such as social, economic, political, administrative, technological, managerial and environmental have to be taken into account. Hence it is obvious that WSD needs a multidisciplinary approach with a genuine focus on community participation. In other words, the community living in the microwatershed has to be encouraged, enabled and linked with the technical input to fulfil the various objectives.

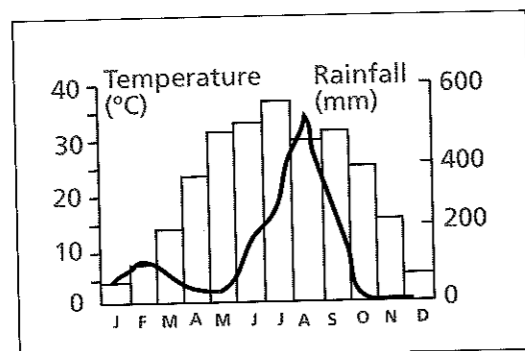
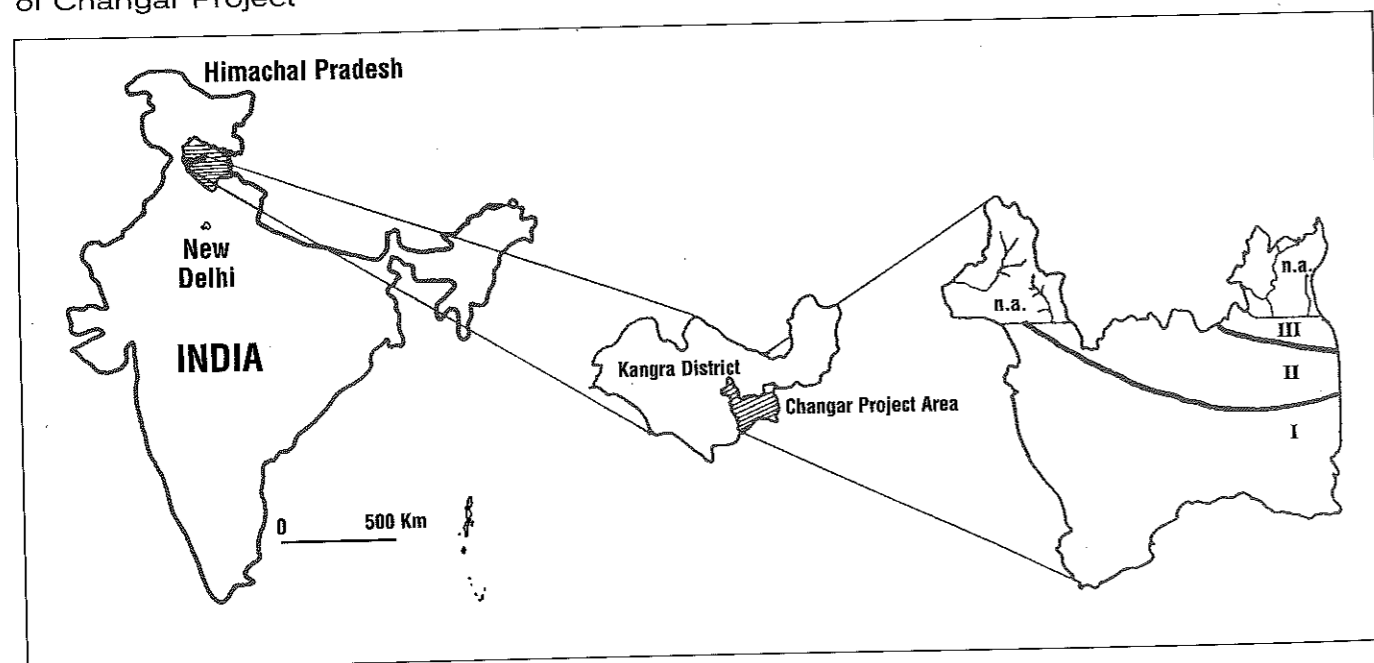
The Indo-German Changar Eco-Development Project (IGCEDP) has adopted a similar line and socio-technical view on watersheds and WSD is its mandate since the improvement in land and water management cannot take place without the ultimate decision-makers: the local people. Prior to the elaboration of the WSD-approach in

IGCEDP, the project background is given in the next paragraph followed by the problems of the Changar region and the project concept of IGCEDP. Against the backdrop of the characteristics of WSD and the ecological problems in the Himalayas, IGCEDP was started in the Indian state of Himachal Pradesh in 1993.

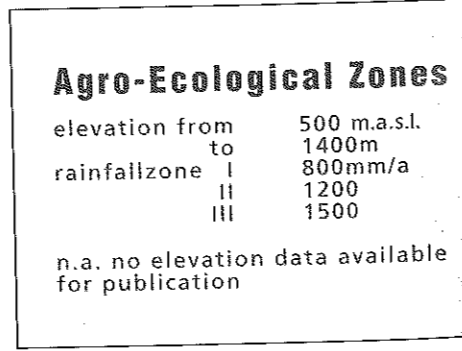
PROJECT BACKGROUND

The location of project area is visible from Fig 1, whereas Table 1 gives the geographic and demographic data of the project. The Indo-German Changar Eco-Development Project with an area of 428 sq. km – located in the western Himalayan foothills or Shivaliks in the Indian state of Himachal Pradesh – had taken up the task of developing a concept to combat land degradation and resource depletion. The project is implemented through a society (Himachal Pradesh Eco-Development Society, HPEDS), which is still a semi-governmental organization with the state forest department as the nodal department (i.e. funds are routed through the Forest Department and the head of the society is the Conservator of Forests). The mandate was to improve upon the existing land uses towards sustainable land management for a better livelihood of local communities. The total German assistance for 15 years to the project was earmarked as up to 15 million DM (Rs. 30 crores) matched by Rs. 13 crores from the Indian side.

Figure 1: Location of Changar Project



Changar - Climate



Changar - Elevations and Agro-Ecological Zone

Table 1: Basic data of Changar project region

Geographic	
Location:	Shivaliks or Outer Himalayas
Project Area:	428 km ² (Forest 18%, Community 16%, 23% etc.)
Geology:	Sensitive, unstable (Conglomerates with sand/loam deep gorges, fissured hills, low soil depth etc.)
Climate:	Sub-Tropical (Rainfall: 1700mm; Temp. 0-44 °C)
Profile:	90 Mini-Microwatersheds (approx. 300-500 ha)
Form:	Sub-Catchment of River Beas
Demographic	
Number of Villages:	578 (Panchayats 105)
Total Population:	130 000
Population Growth:	0.8% (Annual)
Total Livestock:	80 000
Land Holding:	0.74 ha (Average)
Household Size:	4.8 persons
Economy Type:	Subsistence Farming with Remittance Economy

Problems in changar

The heterogeneous landscape of Changar – signifying remoteness, rugged terrain and water scarcity – is conspicuous by its fissured hills, flood plains and steep slopes causing microclimatic differences, which intensify as one moves south-southwest from its northern boundary (Kotru, 1996). It is a zone of naturally sensitive geology and unstable soil profiles. The soils are not very fertile. Natural erosive processes have been accelerated by human uses. Increased human population, livestock density exceeding the current carrying capacity of the land, deforestation, forest fires and improper land management have caused a steady but obvious resource degradation especially that of the land and water resources. An overall increase in the surface runoff due to soil compaction caused by overgrazing, lack of infiltration, persistent removal of vegetational cover, etc. causes high soil erosion. Moreover, the overall water-holding capacity of the unconsolidated soils is low.

The effect of degradation can be summed up as: acute water shortage in summer, poor quality and deficit in fodder production, low on-farm and communal land production. This has led to an increase in flow of seasonal migration although at peak workload periods i.e., harvesting and sowing, marriage ceremonies etc. most of the migrants are in the village. Women are intensively involved in natural resource management. In addition, the communities living in watersheds or villages are entities with individual desires and needs. Whereas the area other than that of the individual village is not seen as their domain except perhaps the forest land, even the households within a village are a divisive force (e.g. due to economic disparity, caste-bias etc.) and with hardly any uniform strategy for village development. Resource and social degradation, therefore go hand in hand.

To overcome the above complex of problems the project concept was developed in 1994 in a Goal Oriented Project Planning (GOPP) Workshop. The development hypothesis is given below:

- The concept was based on the view that watersheds are dynamic landscape systems on whose surface various other systems and sub-systems of land use and management are imposed. The project was not following the purely technical view of watershed stabilization and development, which assumes that the headwater-zone should be treated first and various treatments derived from the considerations

of formal land use capability classifications are applied in sequence from the uppermost to the lowermost parts of the catchment. The project planning matrix (PPM) derived from GOPP, outlines the project concept as given in Table 2.

Table 2: Goal, purpose and results as per IGCEDP-PPM (phase 1994-99)

GOAL
Imbalance between production and use of renewable natural resources is narrowed in Changar Project Area while living conditions improve
PROJECT PURPOSE
Village Development Groups/Organizations manage their renewable natural resources with the assistance of HPEDS
RESULT 1
Organizations/Groups developed and functioning at village and watershed level for integrated resource planning and management
RESULT 2
Locally adapted natural resource management programme developed and implemented in selected MMWS
RESULT 3
Professional capacity built up and organizational structures/procedures established in HPEDS

Strategy-guidelines

Given the problematic and the development hypothesis derived from GOPP, the strategy-guidelines for the socio-technical approach are elaborated based on five aspects:

Participation and self-help

These were meant to create and strengthen the village-based self-help organizations and address some basic problems related to the natural resource management (NRM). The capacity-building of primary (community) and secondary target groups (line departments) were to precede the major inter-sectoral interventions. This is in line with the community's role as managers of natural resources. Since women are intensively linked to NRM, they are affected by the resource degradation both directly because of the declining yields of the on-farm production and indirectly by the increased work-load in fetching water and fuelwood (Ghai, 1994). It signifies that community is the main stakeholder and if it is intimately involved in all aspects of a project, there will be less risk of inappropriate approach, design, etc., significant under-use and long periods of disrepair.

Conservation-effective production

The degraded lands can be rehabilitated if protective and productive site functions are maintained. Forest management and soil and water conservation measures play a major role. However, if these sectors do not provide short-term benefits to the community, effectiveness is limited. Innovative and adaptive technical inputs must be given. Forestry, in its long-term role in rehabilitation and biological conservation, and in resource production (fuelwood, fodder, water etc.) becomes the major technical component for the productivity and protection of any watershed.

Poverty alleviation linked with sustainable natural resource management

If the target groups (TGs) (e.g. resource poor) dependent on common property resources are not reached, the continuity of degradation cannot be ruled out. Moreover, the inherent danger of progressive farmers getting the ultimate benefits is a real one. To address this, TGs are identified through PRAs (Participatory Rural Appraisal as conceived by Kar et al., 1995) and are involved in the process of planning, implementation and management. The ultimate aim of eco-development is irrelevant and unachievable if it does not bring the short-term economic benefits to people in general, especially to the lower strata of population (i.e., poor).

Participatory planning on watershed basis: from village to watershed

Here a gradual and process-oriented, watershed approach from village areas to the whole Mini-Microwatershed (MMWS) is attempted¹. The knowledge of villagers supplemented by the expertise of subject matter specialists are to be combined to lead towards a watershed society. Watershed-approach initiated in various villages should culminate into WSD as a whole. The idea is somewhat similar to the experiences in WSD in Maharashtra.

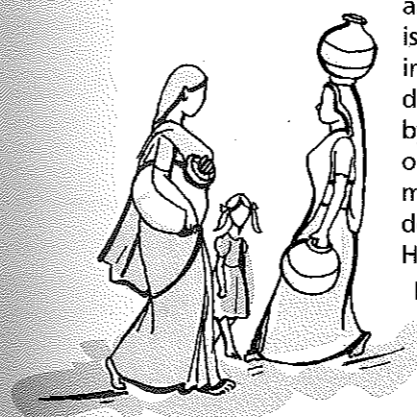
Institution building: from village to HPEDS

Institution-building was the major platform for the sustainability approach. The initial dominance of the project in planning, implementation and management was to be gradually shifted to the village/watershed communities. This was done by forming Village Development Committees (VDCs), which are the primary institutions through which a project can address social and resource development. On the one hand, village-level institutions had to be strengthened - capacity building - so that they could deliver beyond the project-period. On the other hand, intersectoral line departments were also to be involved so that the long-term institutional linkage is available to support the sustainable NRM beyond the project period. It was also foreseen that the watershed societies will be formed. However, it was not clear as to how Panchayati Raj Institutions (PRI) - which are also doing developmental work - could be involved in the project. Ecological improvement should also mean livelihood security of local communities, inter alia, through recognition of their customary rights over natural resources. The success of such efforts is critically dependent upon their ability to strengthen the technical, organizational and managerial capabilities of rural communities and organizations.

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SOCIO-TECHNICAL PATHWAY

All the five aspects elaborated in the previous section were considered in the planning and implementation of the socio-technical concept of which participatory planning and adapted intersectoral interventions form the basis. Whereas participatory planning is discussed in the next paragraph and is the base for social mobilization, the technical input is demonstrated on the basis of the forestry sector - the activities for which are derived from the technical plan made at the MMWS-level. It was asserted that merely by community mobilization, sustainable natural resource management cannot happen on its own unless capacity-building and empowerment of the community in terms of management of community assets including forest management, linkage with departments and panchayats etc. are not well-conceived, effected and backed-up. Hence in addition to community mobilization, innovative technical inputs must be provided as basis for the TGs to manage the community assets (e.g. multipurpose plantations). Participatory planning is meant to enable the communities to visualize and plan the natural resource development, whereas technical inputs are provided for the subsequent management of the natural resources created.



Participatory planning as a social input

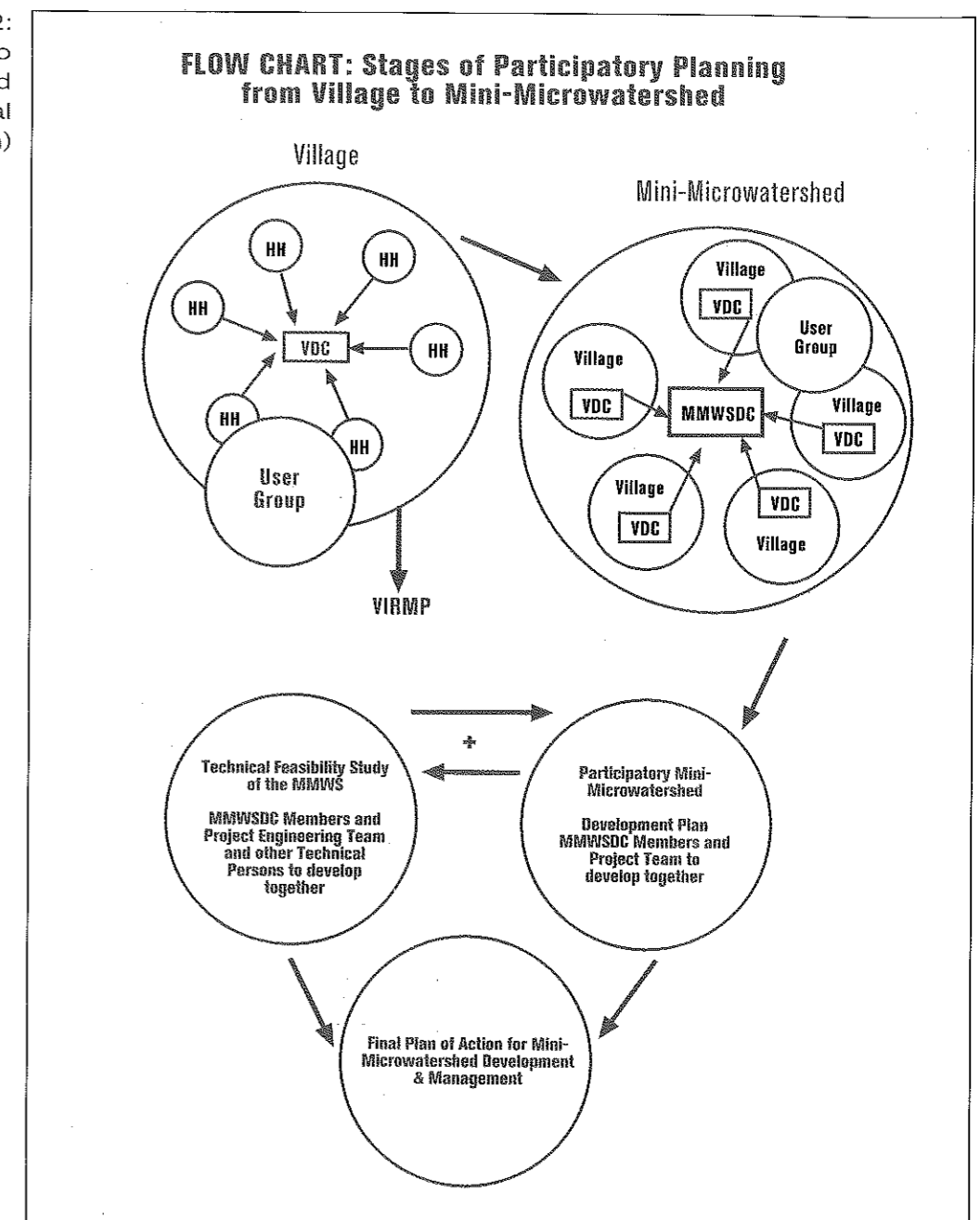
All the elements of participatory planning in IGCEDP were addressed by the procedural steps of capacity-building at the village level as shown in Table 3.

Table 3: Participatory planning and social input: process steps of capacity building and preparation of project report

Step	Activity	Purpose/Result
1	Informal hamlet level discussion	To have basic information about the village To meet influential persons in the village To build rapport with the people
2	Introductory meeting	Information exchange; to explain the working of the project and pre-condition for providing support
3	PRA	Social map and wealth ranking
4	Cross visits	Vision building
5	Village meeting	Vision building and testing willingness Planning for closure of community area from grazing Discussion about membership fees Initiating discussion about forming Gram Sabha Selecting Gram Sabha president
6	Enclosure of community land	Testing willingness and village dynamics
7	Gram Sabha meeting	Payment of membership fee Deciding and signing of Sahmati Patra Fixing dates for planning PRA
8	Topographic survey	Develop contour map of MMWS
9	Planning PRA	Problem and potential analysis of natural resources Priorities and phasing out the activities
10	VDEC formation	To help in proper implementation, post care and maintenance of activities
11	Implementation	Works, supervision, follow-up, monthly meeting, training and skill transfer, monitoring
12	Gram Sabha review meeting	(Every six months)

The steps and village-level meetings preceding the actual participatory planning, were a major event for initiating the village-based self-help activities linked to WSD and supported by IGCEDP. The first action plan after community mobilization consisted of initial resource assessment and problem-analysis. The community facilitated by IGCEDP ascertains as to how future demands for basic resources could be met from the present sources and limited land availability. The action plan was gradually refined by the villagers and became an integrated resource management plan, which was subsequently adjusted and merged with the technical plan developed at the MMWS-level (Fig 2). Gradually, all the villages within a MMWS were brought together to address other impending tasks such as fulfilling the potential of rehabilitation of all the degraded lands. As a pioneer in the government sector in Himachal Pradesh, IGCEDP applies participatory rural appraisal techniques (Kar et al., 1995). The social and technical interventions although done simultaneously are initially dominated by community mobilization and self-help activities.

Figure 2: From village to MMWS (social and technical harmonization)



The stages of participatory planning from village to watershed are shown in Fig 2. The whole process culminated in the final action plan for the MMWS, which consisted of intersectoral activities fulfilling the potential of NRM while moving from village to watershed. The amalgamation of the technical feasibility and people's vision to improve their natural resource management based on priorities and solutions put forward by them set the base for socio-technical approach having inter-sectoral elements, which is later discussed on the basis of the forestry concept of IGCEDP.

Forestry as a technical input

Participatory planning and community-based management including a sustainable intermediary yield distribution are the cornerstones for the acceptance of any kind of technical input at village-level. In this regard, forestry emerges as a major sector

due to its dominant role in resource production and protection including soil and water conservation. Moreover, the large extent of degraded community and forest land and the problems of resource depletion can be substantially addressed by forestry activities. The major activities of the forestry sector and their intersectoral links is evident from Table 4. Therefore, there is wide range of forestry operations which are a part of the participatory watershed development approach of the project as their cross-cutting aspects (e.g. with soil and water conservation, livestock management and social development/institution-building activities etc.) form the bases of the socio-technical concept. The role of forestry in protection and conservation - as shown by surface runoff appraisals, springhead outflow, silt loads etc.) as well as in the sustainable production of basic needs (fodder, fuel energy etc.) cannot be overemphasized. Since the inception of IGCEDP in 1993-1994 the forestry sector has played a crucial role in the consolidation of the participatory watershed development in Changar. As is evident in PPM it has a major share in reaching the goal.

Table 4: Overview of forestry activities and intersectoral-link

Type of Land	No. of Trees/ha	Major Species	Objectives* or intersectoral link
Govt./Community Land			
1a) Community Plantation (CP)	1100	Acacia catechu, Dalbergia sissoo, Bauhinia variegata, Toona ciliata, Prunus padus, Dendrocalamus hamiltonii, Albizia stipulata etc.	Fodder Fuelwood Other NTFP Soil conservation Small timber
1b) Community Orchard (CO)	400	Syzygium cuminii, Pyrus pashia, Emblica officinalis, Mangifera indica, Artocarpus species etc.	Fruits Fuelwood Timber
2) Rehabilitation of Degraded Area (RDA)	600-900	As above (mostly Acacia catechu, Albizia stipulata, and Dalbergia sissoo)	Soil conservation Fodder Fuelwood
3) Silviculture Plantation (SP)	400	As previous + grass tufts + clover	Fodder
4) Forestry Campaign • Spring Sanctuary • Avenue • School	as per demand and site specific as per demand and site specific as per demand and site specific	Ficus religiosa and bengalensis, Mangifera indica Grevillia robusta, Populus species, Dalbergia sissoo Prunus species, Grevillia robusta, Mangifera indica, Picanut	Eco-awareness, Soil conservation Ornamental
Private Land			
1) On-Farm Forestry	as per demand	Morus alba, Prunus, Terminalia species, Artocarpus species, Syzygium cuminii, Mangifera indica	Fodder, Fuelwood, Fruits Fibre timber
2) Hayland	400	Acacia catechu, Bauhinia variegata, Terminalia species, Dendrocalamus hamiltonii, Syzygium cuminii	Fodder, Fuelwood
3) Fodder Promotion	As per demand	Napier, Setaria, Styloxanthus etc.	Fodder

The objectives are arranged as per the priority, hence fodder in CP has the first priority

Over the last 5 years, forestry has provided substantial insights into various aspects of ecological rehabilitation including soil conservation and water augmentation. The role of forestry in sustainable watershed management was conceived as being:

- less polluting land use
- biological and mechanical catalyst for inducing percolation influencing the duration and perennial supply of water (recharge/flow) positively
- effective in combating soil erosion and eroding properties of rainfall on slopes
- effective in rehabilitating degraded lands
- resource production enhancement

Forestry must address the needs of watershed protection and rehabilitation. On the other hand, however, it should organise and train communities for the management of created forest resources. This cements the socio-technical concept.

Procedural steps for the socio-technical concept based on forestry

After the initiation of participatory planning and justification of forestry works in Village Integrated Resource Management Plan (VIRMP), organization and activation of user groups/VDCs and technical input from HPEDS commences. The Community Forest Management Plan is a part of VIRMP and the basis for the management of plantations and has both social and technical aspects as contents² then forms the basis of socio-technical interventions required at various levels (e.g. planning, management). The procedural steps adopted for the management of plantations are the following:

- categorization of plantation sites as per functions: production and protection with village community
- selection of species as per the community's choice
- silvicultural interventions as forest management training
- Follow-up by line departments especially forest department

The basis for the type and intensity of management of a plantation are further derived from the categorization of sites and as per the specific functions it should fulfil. The plantation map of village Nanwar (Appendix A) along with its treatment contents are prepared with the user groups/VDCs (Appendix B). This is gradually followed by a technical plan and sequence of management interventions discussed and demonstrated with the user groups (Appendix C). Thus the forestry plantation demonstrates an effective instance of socio-technical concept. The overall experience made in WSD after 5 years of implementation has, however, given positive as well as negative signals and the characteristics of WSD-approach as mentioned earlier are reviewed in the context of IGCEDP as conclusions consisting of advantages and disadvantages.

CONCLUSIONS

A 5-year experience is rather short to pass a final judgement on the socio-technical approach³. Nevertheless, wherever process-orientation is on track towards the desired goal, some assessment can be made if the impact is positive or negative. Hence conclusions are drawn in the light of experiences in the forestry sector by reflecting on advantages and disadvantages listed as follows:

Advantages

- On the communal degraded lands, forestry can be an effective socio-technical intervention towards resource protection and production.

Training interventions with user groups help develop even in the early stages a sense and spirit of ownership

- Training interventions with user groups help develop even in the early stages a sense and spirit of ownership.
- The involvement of user groups in planning and implementation enhances accountability in general.
- Forestry is an effective socio-technical intervention as compared to expensive engineering measures meant as soil and water conservation measures.
- Management training also enhances the willingness of villagers to adopt similar measures for increasing on-farm production.
- The adjustment of findings of participatory planning to the technical plan at watershed-level is possible if choice and requirements of people get incorporated.
- The forestry sector can be practically linked to other sectors (e.g. fodder production for livestock management) so that its role in the success of socio-technical concept is paramount.
- Going from village to WSD, process-orientation is involved, the pace of which if not forced can lead to the desired goal.
- Location and situation specific issues related to NRM can be addressed better at the village-level.
- A socio-technical concept dominated by forestry is ideal to lead towards WSD.

Disadvantages

- Prior to the preparation of a technical feasibility plan at MMWS-level, there is a tendency to do many physical works at village level so that the possibility of the MMWS-plan becoming redundant is high.
- Participatory approaches find a good acceptance at village level but watershed-level is not the concern of villagers as villagers do not think beyond village boundaries.
- Watershed management and development may not be completed within 4 to 5 years and non-participation of one or two villages can easily block the progressive coverage of the whole watershed.
- Technical feasibility plan and participatory MMWS plan cannot be easily amalgamated.
- The whole MMWS area is not treatable as per villagers.
- Inter-departmental linkages to support VIRMP beyond project period are not easy to create.
- Initial enthusiasm of village communities for WSD wanes as soon as various village-based works are done.
- The tendency of VDCs and formal user groups to create a parallel structure to PRIs cannot be ruled out.
- The increase in the workload of villagers cannot be ruled out.
- Naturally sensitive geomorphology as is prevalent in the western Himalayas can hardly be treated with WSD-approach.

In terms of the 5 aspects discussed under strategy guidelines it was felt:

- Participation of villagers is not forthcoming if asked for cash. Only labour and material input is given willingly. On the other hand the self-help activities are dominated by the ones which do not always have the eco-logic.

- With the socio-technical concept forestry proves to be a major conservation-effective programme.
- Poverty alleviation does not take-off in the short-term. In fact, initially due to closure of areas for grazing, long gestation periods of forestry products, resource poor do suffer.
- As indicated earlier, the people generally do not think beyond the village limits.
- Institution-building is also a long-term process and depends largely on the type of people who are in the VDCs and how the different target groups are handled or tackled.

RECOMMENDATIONS

- In NRM or WSD projects forestry sector can be effectively used to strengthen the socio-technical concept, which not only mobilizes communities for planning but also prepares them for long term management.
- Process-orientation should be allowed to take its own course but relevant interventions have to be made if achievement of the desired results is questionable.
- Socio-technical concept should be based on an intersectoral platform so that cross-cutting issues can be addressed.
- Joint Forest Management is a must and this inculcates the following:
Community's short and long terms stakes
Community's involvement and task allocation (planning, implementation, monitoring & evaluation, management)
Technical supervision and guidance
- Decentralization process must be the guideline which means:
More rights to people and secure environment for sustainable use
Make use of Panchayati Raj policies (to incorporate VDC)
Incorporate women in all forums of developmental processes
Seek group decision-making
Give space to other actors, which means linkage with others ((inter-agency or departmental involvement)
- Privatization and less dependence on external interventions must form the strategy which means:
Effecting self-initiatives
Supporting local entrepreneurship
Attempting privatization of services (e.g. running a village bull centre)
Forging linkages with other institutions
- Regulatory laws have to be introduced and consolidated which means:
Environment-friendly laws
Awareness and sensitivity towards ecological destruction
VDC by-laws on forest management and other common property resources
- General categorization of degraded sites must be done as it clarifies the productive and protective functions amongst people. This includes:
Site description
Purpose (production, protection)
Treatment
Silvicultural concept (time, product, intensity-wise)
People's role and action in management (with agreements, M&E etc.)
- The local technical expertise must be developed through village technical animators so that sustainability of socio-technical concept is ensured.

END NOTES

- 1 In the participatory land-use planning process community analyses the land use of the village with a detailed elaboration of problems, resources and their potential, and utilization aspects. The result is the formulation of Village Integrated Resource Management Plan, which elaborates the land use plan. The combination of such data from the villages of a particular MMWS results into MMWS-Plan after having incorporated the technical feasibility screening and topographical survey data. A common agreement on the ban of open grazing is deemed as the minimum action prior to the afforestation (binding Community Forest Management Plan).
- 2 Contribution of community towards the establishment and management of a plantation begins with the consensus

among the villagers to put the village community land at IGCEDP's disposal for afforestation. It is the major decision by any community prior to sealing of community land for longer duration. The selection of appropriate species for afforestation and distribution of various responsibilities for the management and establishment of plantation. VDC frames by-laws for the control of trespassing, cattle grazing, fire and illegal cuttings, etc. It provides the material and labour and takes care of watch and ward.

- 3 The community mobilization is a slow-process and its involvement in the management of common property resources is only possible if it was also involved in planning and implementation.

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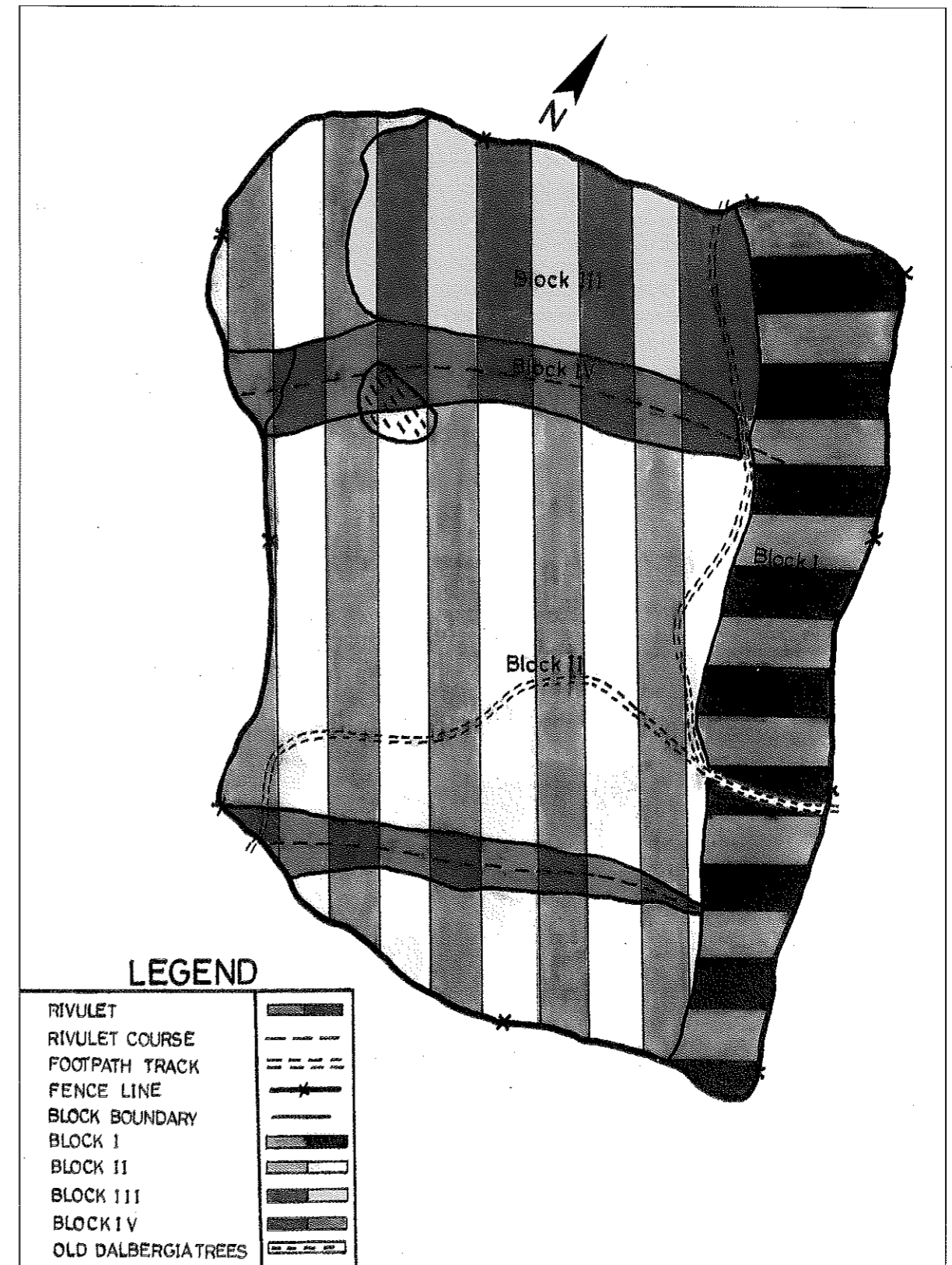
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Appendix A: Plantation Map: Nanwar MMWS



Appendix B

Block I (Protection forest with minimum production focus)

This covers the topmost area of the plantation i.e., area along the ridge-line immediately below the roadside. The area has steep slope (>30%).

Purpose: Soil and water conservation. It serves not only the purpose of quality but also regulated flow of water in springheads and rivulets.

Treatment: The total area is approximately 20% of the whole plantation. Planted with *Albizia stipulata*, *Acacia catechu*, older trees of *Pinus roxburghii* and *Bauhinia variegata*. Since the last 4 years natural regeneration of *Ficus roxburghii*, *Pyrus padus*, *Terminalia alata*, *Psidium guava*, *Grevillia robusta* and *Dalbergia sissoo* has come up.

Silvicultural concept: For the initial 10 years total concentration on increasing the tree cover and wide spacing will be avoided. Controlled lopping only on old-growth trees including bamboo. Regular grass harvesting. After 10 years A-grade thinning is planned. The multi-layered tree cover to be treated with Coppice selection System. This will allow a regulated mineralization and runoff.

Block II (Production forest with protective functions)

This is the major patch of the plantation (approximately 60%) which covers the mid-hill zone of the catchment. It has medium to steep slope (20%-30%), however, dominated by medium slope. It has two main portions separated by the stoned footpath, which acts also as fireline.

Purpose: The production of grass, leaf fodder, fuelwood, small timber in shorter rotations and quality timber in long rotations will be the focus. Tree cover will remain a permanent feature so that the aspect of soil and water conservation is taken care of.

Treatment: So far the area has been planted with tree species *Bauhinia variegata*, *Acacia catechu*, *Dalbergia sissoo*, *Grevillia robusta*, *Albizia stipulata*, *Toona ciliata*. A sizeable number of formerly planted trees of *Pinus roxburghii* are also growing here. Over the course of last 4 years, the natural regeneration has been in profusion. The species are *Pyrus pashia*, *Prunus cerasoides*, *Emblia officinalis*, *Bombax ceiba*, *Flacourtia*, *Mallotus philippensis*, *Ficus* species, *Syzygium cuminii*, *Psidium guava*, *Grewia optiva*, *Toona ciliata*, *Dalbergia sissoo* etc. The major grass species is *Chrysopgon* species (Dholu).

Silvicultural concept: The concept will be based on coppice selection system with upper canopy species to be selected during the early thinning process. The thinning can be A-B Grad initially. The fodder production will be the main focus so that silvipastoral aspect will dominate while realizing the above concept. The thinning process will have to be started earlier than expected as this will help in keeping the grass

production intact. The major species, which will be part of the upper canopy trees, are *Dalbergia sissoo*, *Toona ciliata*, *Terminalia alata*, *Mangifera indica* and *Syzygium cuminii*. The controlled lopping has already been demonstrated and is in progress with the supervision of IGCEDP.

Block III (Production and protective forest)

This is dominated by a very dense patch of *Acacia catechu* (17 years old) located in the middle portion of the plantation northwest of the Block II. The average height of the crop is over 7m. As this species of shorter rotation period has a great economic value, it will serve the production purpose in addition without compromising soil and water conservation and fire hazard. The slope here is medium.

Purpose: Economic value of this species will be fully utilized with tree cover a permanent feature.

Treatment: In fact, the trees here have been planted 17 years back and have developed into a very dense forest with clearly affecting the grass production. Only in the formerly opener patches *Toona ciliata* has mixed with occasional individuals of natural regeneration struggling in the lower canopy.

Silvicultural concept: It has been initiated last year with controlled lopping of trees (one-third of the crown length). The crown density is 90%. Following the guidelines of coppice selection system, canopy will be gradually opened by carrying out further operations of controlled lopping. Moreover, struggling and bad quality trees of *Acacia catechu* can be removed. This will provide a growth impetus to remaining individuals with grass production as undergrowth again coming up.

Block IV (Protection forest with limited production)

This is the vegetal area covering rivulets and their adjoining banks 5 meters on both sides. It was threatened with soil erosion and land slips. Protection of this vegetation with focus on conservative production is the aim.

Purpose: The vulnerability of areas along the rivulets is well known, so that complete protection for the purpose of soil and water conservation will be stressed. The production of fodder and fuelwood will get a gradual focus.

Treatment: So far loose boulder checkdam series has been carried out, this is supported by the plantation of bamboo rhizomes in and around rivulet areas. Moreover, every effort has been made to support natural regeneration of trees and shrubs alike.

Silvicultural concept: No major use will be allowed during the first 10 years of plantation. The focus will be on complete vegetal cover of the area. Only fire hazard material will be taken away. The controlled lopping of old growth trees can be practised. After a decade of stabilization, rare and old trees may be felled under "Einzelbaumnutzung or single tree use" without endangering the long term purpose of the plantation.

Appendix C: Community-based general sequence of planning and silvicultural operations in the plantations of IGCEDP

Year	Operation	HPEDS Role
0	Planning through VDC/User group, raising of nurseries, site selection, motivation for joint forest management	Active facilitation
1	Site preparation, pit digging, fencing, planting, mulching etc.	Technical input
2-5	mulching, light bush-cutting, maintenance (replacement of fence posts), facilitating growth of natural regeneration, preparation for live fence from the inner plantation area etc.	Technical follow-up
4-7	Tending operation: pruning, bush-cuttings, cleaning, selective controlled lopping on rejuvenated old-growth trees and spacing of fruit bearing trees of lower canopy	Technical training to users
8	Tending operations: pruning, light crown thinning, cleaning (of wanted species and also of very dense patches, special attention to fruit bearing tree and grass production	Technical training follow-up
11	A-Grade Thinning: light crown thinning for facilitating grass growth and outlining of tree groups of various dimensions (potential trees of different canopies)	Technical supervision
15 20	B-Grade Thinning: further consolidation of multi-layered, well-spread tree groups C-Grade Thinning	Technical supervision
25 (onwards)	Gradual removal of species with rotation of 25 years as per coppice selection system	Technical supervision
30	Tending of coppice crop-singling of coppices	Technical supervision
35-40 (onwards)	Selective final harvest through selection fellings in top/middle canopy, gradual removal by keeping the continuity of tangible and intangible benefits in mind	Technical supervision

*The aspect of partial grazing can be thought of only as per the growth of the crop and will have a selective/rotational area approach within the plantation

**Coppice with Selection: By applying coppicing method in upcoming crop, the selection of lower canopy individuals will take place and can be adjusted gradually. Also the physical rotation period of individual species in lower canopy will have to be considered in the long run (site, situation, demand of people etc.)

CAPACITY BUILDING OF NGOs AND VILLAGE SELF-HELP GROUPS FOR LARGE SCALE IMPLEMENTATION OF WATERSHED PROJECTS:

The Experience of the Indo-German Watershed Development Programme in Maharashtra

Crispino Lobo and Marcella D'Souza • Watershed Organization Trust • Ahmednagar • Maharashtra



INTRODUCTION

The Indo-German Watershed Development Programme (IGWDP) is a bilaterally assisted effort presently being implemented in the State of Maharashtra.

This Program was the brainchild of Fr. Hermann Bacher¹ who initiated the same in 1989. However, full scale implementation only began in 1993.

THE PROGRAM

The objective

The Program aims to support people's initiatives in the area of Natural Resource Management (NRM) along watershed (WS) lines. Wherever such an initiative does not spontaneously occur the Programme aims to support Non-Government Organizations (NGOs) or other Self-Help Group (SHG) Promoters in their efforts to mobilize and catalyze a watershed community. The focus of the Programme is strengthening the capabilities of villagers as well as their facilitators (e.g. NGOs) to successfully implement and manage a watershed development (WSD) effort.

The actors

The main actors in the Program at the project level are the villagers themselves (Gram Sabha²) and their institutional representative, the Village Watershed Committee (VWC). They are the 'heart' of the programme and the actual implementers. They are mobilized accompanied and supported in this effort by NGOs. These efforts of the NGO and VWC are complemented by local government departments by way of administrative facilitation and access to government developmental schemes.

At the Program level the KfW (German Bank for Development) and GTZ (German Agency for Technical Co-operation), both agencies of the German Government extend financial support through the National Bank for Agriculture and Rural Development (NABARD) and the Watershed Organization Trust (WOTR³) which is the coordinating as well as support agency for the Programme. On the Indian side both NABARD and WOTR are legal project holders and are responsible respectively for the Full Implementation Phase (FIP) and Capacity Building Phase (CBP) of the Program. The Government of Maharashtra (GOM) extends political, administrative and policy support as well as technical and developmental extension, where required.

Phases

The Program consists of 2 Phases : The Capacity Building Phase (CBP) and the Full Implementation Phase (FIP).

NGOs or village self-help groups with no previous experience in WSD but who nevertheless feel the need of testing the potential of a WS community as well as

Principles and Practices of Integrated Watershed Management in India

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their own capabilities before committing all resources in the effort can avail of the CBP which is managed by WOTR.

Once the CBP is successfully completed they move into the FIP which is managed by NABARD. NGOs with demonstrable capabilities in participatory WS management can go directly into the FIP.

The relationship between the CBP and the FIP is shown in the following table:

Relationship between capacity building phase and full implementation phase

Phases	Capacity Building Phase	Full Implementation Phase
Nature	Duration : 12-18 months	Duration : Max. 4 years
	Capacity building of VSHGs/NGOs	Full Scale Implementation of WS project by VSHG supported by NGO
Organization responsible	WOTR	NABARD/PSC
Activities involved	<ul style="list-style-type: none"> ● Social awareness of their environment and its impact on their daily lives ● Social mobilization (Establishment of VWC, Forest Protection Committee, Mahila Mandal, etc.) ● People's participation through exposure visits, farmer-to-farmer extension, voluntary contribution of labour/cash, devolution of power and functions, etc. ● Training of VWC, NGO, Panlot Sevaks and local women promoters in specific task ● Development of management systems for VWC and NGO ● Small activities such as data collection, participatory planning, implementation of works, etc. in a micro-watershed. 	<ul style="list-style-type: none"> ● Feasibility report preparation ● Large scale implementation of sanctioned projects

THE ISSUES

A programme like the IGWDP which seeks to have large scale impact and yet be participatory even at the micro level, is inevitably faced with the following issues :

- How does one assess the competence (reputation, track record etc.) of NGOs or developmental agencies, as well as their rapport with the people in a manner that is objective, result oriented and transparent?
- How is one to gauge whether the intended target group, in this case the WS dwellers, really wants the proposed intervention and the extent to which they are willing to contribute to realize the same? How does one assess whether they really trust the NGO and are willing to actively co-operate with them?
- Women depend most heavily on the environment to provide for the bulk of the family household needs (e.g. water, fuel, etc.) and therefore have a stake in the regeneration and conservation of the environment. Given their status in the rural society, how is one to ensure their active participation in a manner that not only integrates them in the community but also empowers them without inviting the wrath of the conservative establishment?

- Assuming that the NGO/developmental agency as well as the intended target group meet the minimum criteria in terms of competence, rapport and desire, how does one go about assessing their capabilities – strengths & deficiencies – and tailoring the capacity building measures to address their needs and requirements?

THE RESPONSE

The process of qualification and selection:

A program that is statewide and government supported has to be open to all developmental constituents of civil society who wish to undertake developmental activities within the constraints of available finance. It must evolve a methodology that is objective and open to all.

The basic principle around which the process of qualification and selection is embodied is that both the NGO and the villages must "select" themselves. In other words, it is for the NGOs and villages to factually demonstrate that they want the program, need it and can with external help, deliver the same. In other words, they have to qualify themselves for inclusion into the program.

This process consists of 2 components

- Initial Qualifying Criteria.
- Self Selection Conditionalities.

Initial qualifying criteria

Concerning the NGO

- The NGO or its key personnel should have had previous experiences (at least 3 years) in rural development.
- It must enjoy a reputation of integrity and commitment.
- It must have worked in the WS area previously.

Concerning the WS :

- It should have a net treatable area of more than 500 ha. in size. The reason for this being that since intensive inputs in terms of staff and effort is required to successfully mobilize and prosecute a WS effort, overheads will be substantial and can be justified only if the project is also of a proportionate size.
- The rainfall should not be more than 1500 mm. This figure appears arbitrary. Nevertheless about 70% of Maharashtra would meet this requirement.
- The WS should be a primary catchment or the upper portions of a drainage system. This is because the program advocates a "Ridge-to-Valley" approach with emphasis on soil conservation and biomass development rather than on only water conservation/harvesting.
- 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 not be obtained. Without a minimum functional consensus, participatory WSD is not possible.
- Perennially irrigated area within the WS should not be more than 20% of cultivable land. Those with access to year round irrigation usually control the village institutions and are least likely to contribute to an effort that seeks to empower all groups through their participation in decision making and execution in matters pertaining to the WS.

Concerning the watershed dwellers (villagers) :

- Villagers must in principle agree to come together and take responsibility for project execution and maintenance.
- They would have to commit themselves to the following :
 - ban on free grazing and undertake social fencing on treated lands. This is necessary to ensure preservation of works, regeneration of root stock and protection of planted material.
 - ban on tree felling for non-household purposes. This does not include lopping for fuel and fodder purposes.
 - willingness to contribute at least 16% of unskilled labour costs of the project by way of "shramdan" (voluntary labour). Landless and single parent households are excluded. This is necessary if a sense of ownership and stake holdings is to develop. Without this feeling of "our project/our effort", the project would not outlast its implementation phase.
 - In order to concretize and institutionalize their intentions and commitments, they would have to set up a Village Watershed Committee (VWC) which is representative of all social groupings and geographical areas of the WS. This VWC is to be nominated consensually during a Gram Sabha. It is this body which is actually the key partner and "legal project holder" as it were.

Self selection conditionalities

This is a dynamic interactive process which is part of an induction process called the Participatory Operational Pedagogy (POP). The POP has been developed over the years by WOTR in consultation with some of its partners, notably the Social Centre, Ahmednagar.

The POP consists of two components – self selection by the NGO and the villagers and Capacity Building. In this section we shall deal with self selection only.

For an NGO to participate in the programme, it has to demonstrate that it has a committed cadre of personnel (the number is no issue), as well as has built a rapport with, and enjoys the confidence of the people living in the WS.

The NGO is asked to organize the villagers to contribute 4 workdays of voluntary labour on activities pertaining generally to soil and water conservation. In addition it has to secure an agreement in principle from the villagers to fulfill all the conditions mentioned earlier.

Now, usually, the bulk of the village would never respond to the call of an NGO to do 4 work days of voluntary labour unless they have an implicit trust in the bonafides of the NGO, believe that they are not being cheated and are confident that the NGO would be able to deliver the promise of a project. This stipulation serves the purpose of keeping away NGOs of doubtful purpose or antecedents and those that have not invested considerable time and effort in the proposed project area.

It also serves the purpose of gauging the intensity of desire of the villagers as well as determining their readiness to accept project discipline and assume responsibility for managing the same.

Every village is a fractured entity consisting of competing and often antagonistic groups which are based either on caste, economic interest or both. WSD, if it is to be successful, has to involve the consent and active collaboration of all those groups



that draw their sustenance and livelihood from the environment, as well as the involvement of those groups that control the institutional and political life of the village. In the social climate obtaining today, these groups would normally not come together to contribute 4 work days of voluntary labour, unless their need and desire to acquire and implement the project is greater than their inbuilt antagonisms and rivalries. They would rise above the present behavior patterns and interrelationships only if they perceive that the gains from project implementation would far outweigh the gains accruing from the present nature and mode of relationships.

Furthermore, if these groups did come together in a common effort at voluntary labour, spread over several days, it would indicate that though there might be divisions in the village, they are not of a nature that is rigidly inhibiting or irreconcilable. This is very important because only when there is a strong social consensus on a particular course of action and the possibility of negotiating sharing arrangements and resolving conflicts, can an effective and representative village level social institution and mechanism be evolved to implement and maintain the project. This is vital for the success as well as sustainability of any development intervention/project.

The NGOs and the villagers are not left alone in this process of self selection. Initially neither the NGO nor the villagers would know fully well what WSD is all about and the implications of undertaking such an activity. WOTR through its regional centres assists them by conducting training programmes as well as awareness generation activities such as participating in village meetings, organizing visits to WS where work is being successfully undertaken, and by use of folk media. For purposes of Shramdan, WOTR extends technical and organizational support to the NGO as well as a financial contribution towards defraying part of the cost of the Exposure visit to other WSs in implementation. The villagers would have to bear the balance. The role of WOTR, however, at this juncture, is that of backstopping only – the NGOs and the villagers have to take the lead and select themselves.

The process of capacity building

Capacity Building forms the heart of the Participatory Operational Pedagogy (POP). During this process, the relationship between the NGO, the villagers and WOTR is close, interactive and mutually supportive and upbuilding. Once the NGO and villagers meet the qualifying criteria and select themselves, both are inducted into a step by step pedagogy of capacity building.

The principles on which this approach is based are:

- **Watershed to Watershed and Village to Village extension**
Nothing succeeds like success and seeing is believing. A great deal of emphasis and effort is placed on Exposure Visits to successful projects, dialogue between villagers and consultancy and external support to projects by villagers who are or have successfully implemented WSD measures.
- **Learning by Doing**
However much one "knows", one truly "learns" only when one has first hand experience or does it himself. In order that the villagers may truly learn how to do WSD and also experience first hand the benefits, a micro WS (up to 100-150 ha), within their larger WS is taken up for treatment. Here the villagers, especially the VWC, are actually involved in discussing and planning the nature of treatments and expected benefits. They are also trained in the various techniques, work and layout, measurements, record keeping, supervision etc. In order to ensure farmers' participation in determining treatment measures as well as technically sound inputs, a method called "Net

Planning Methodology" has been developed. Here the concerned farmer, the NGO and the VWC come together, in the field itself and work out measures based on actual field conditions.

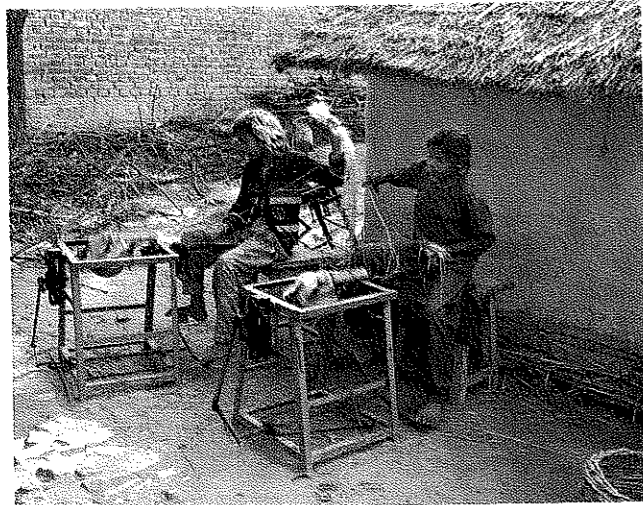
- **Conviction, confidence and competence grows through Experience**
In order that the initial enthusiasm and determination be sustained, it is important that people experience the positive impacts of project implementation in physical terms (increase in ground water level, agricultural productivity etc.), in social gains (greater village harmony, better integration in the community etc.), progressive acquisition of competencies (knowledge, skills, organizational and managerial abilities etc.) and greater financial stability during the CBP itself. Hence it is important that the implementation be socially determined and technically sound. Quality should not be compromised.
- **A programme is only as good as the people involved in it**
Hence a minimum of training inputs is determined for various staff levels of the NGO as well as for the VWC and the PLS4. This consists of both structured and field based "hands on" training. The locations for training pertaining to actual implementation of project measures is usually in the WS itself. The faculty consists of villagers, VWC members and other NGOs who have acquired competencies and skills in the related areas.
- **Development of curriculum as well as course content should evolve from the needs emerging from the field itself and should be simple and having a direct bearing on project implementation.** Theoretical issues are best subordinated to the practical requirements. Empowerment occurs through vesting of authority and discharge of responsibility and accountability.
- **Since the heart of project implementation as well as the key to sustainability is an effective and self perpetuating VWC, maximum effort and focus must be paid to evolving an effective consensual mechanism to throw up an acceptable leadership as well as to arrive at institutional arrangements that allow for effective management of the project and its maintenance.** A unique system called "Management by Portfolio" has been designed and evolved by Frs. H. Bacher and Robert D'Costa. In this system the various tasks and responsibilities for successful project management are worked out by the villagers themselves and the same distributed by way of portfolios amongst the members of the VWC (e.g. monitoring the ban on free grazing, organizing labourers for work, supervising payments made and maintaining of records, organizing voluntary contribution of labour, etc.). These members are held accountable by the Gram Sabha and the NGO for discharge of responsibilities within their portfolio. They are provided training in each aspect of portfolio management primarily through exchange and discussion with VWCs of other WS as well as by exposures to those WS which have singular success in certain portfolios.
- **Mistakes will be made and it is better they are made in the earlier phases of the project than later.** Hence during capacity building allowances are made for mistakes even if somewhat costly, provided they serve as a basis for reflection and education.
- **Open lines of communication and frequent exchanges of information, experiences, difficulties faced and solutions obtained reinforce social consensus and strengthen enthusiasm, goodwill and determination.** At the village level, emphasis is placed on regular Gram Sabha and VWC meetings, during which all measures pertaining to project implementation are discussed and shared. At the NGO level, regular meetings amongst those involved in the programme are emphasized for mutual learning, support and guidance.

- Since both NGOs and villagers are a part of civil society, they must collaborate and involve framework development and institutional actors such as government departments, the banking sector etc. From early on, efforts are made to link the NGOs and the villagers to the formal developmental network where such links are not adequately established.
- Both the NGOs and the VWCs should acquire certain minimum competencies within a reasonable period of time. In the Program the CBP lasts for a maximum of 18 months, which necessarily includes one working and rainy season and some time after. The reason being :
 - 4-5 months of actual work in terms of soil conservation measures and plantation should be sufficient to equip people with the necessary, skills and management practices.
 - The effects of measures undertaken are readily observed after 1 rainy season.
 - The effectiveness of the ban on free grazing as well as the quality of work is discernible from the rate of survival of plants as well as the vigor of protected biomass (grass and shrubs) and the damage sustained by physical measures.

Only if expectations in each of the three above points are largely fulfilled, the NGO and VWC are said to be adequately equipped for successful prosecution of a large scale project. The NGO/VWC is then considered qualified to move into Full Implementation Phase (FIP) of the IGWDP.

The process of women's integration and promotion

When the Program was launched in 1992, women were included in the overall programme strategy, though not as a separate component. However, it became quickly clear that without active women's participation and a special initiative to address their



issues, the impact as well as the sustainability of the project would be questionable. This is because women not only constitute between 60-70% of the labour force in a WSDP, but because it is mostly they who draw upon the environment to meet the basic needs of the family, such as water, food, fodder, fibre and fuel.

On the other hand, given the precarious position and indeed the marginal role of women in rural Indian society, any attempts to empower women and address existing gender inequalities could well result in a situation wherein women would be further losers.

Hence, in order to arrive at a balance between the needs of empowering women and not provoking a backlash, the Program has adopted an approach that while being definitively affirmative is nevertheless, gradualistic, consensual and inclusive. It seeks to draw into the

initiative the active support of the male members of the family as well as their groups in the community.

In this light, the approach, to improve women's participation in the project as well as enhance their status within the family and village is developed based on the following principles

- Since power comes with position or posts, all enabling laws concerning women's empowerment will be take advantage of and introduced to the extent possible (e.g. the 30% statutory representation of women required in all elected bodies

has been made applicable to the Programme and VWCs have been urged to implement this).

- Group formation organized around issues provides women not only with a forum to share experiences but also to draw strength from fellowship.
- In order that women have space for their own personal growth and self confidence, it is necessary for them to have access to financial resources as well as acquisition of assets. This opportunity is provided for since reasonable daily wages are available for the entire life of the project. Women are encouraged to form savings and credit groups as well as to acquire assets such as land or access to common property resources or other income generating assets.
- In order to truly empower women, it is important to take the men-folk into confidence, hence, the focus will not be on the women alone but on the family, for without the support of their men-folk, they will make little or no progress. The support of men is therefore, actively sought for measures that lead to women's promotion.
- In order to ensure sustainability of the program, it is important that lessons learnt and experiences gained by transmitted from one generation to the next. Hence as the future lies with the children, they would have to be introduced to the why, the how and the what of environmental regeneration and conservation. The primary education system at the village level as well as other government schemes like ICIDS (Anganwadi) and Balwadi can be accessed in this regard.

EXPERIENCES GAINED

Qualifying of NGOs and villages

When the Programme was started in 1992, only 9 NGOs were felt to have the necessary potential for WSD. Of these only 2 had past experience. It was realized that despite having expertise in some sectors of WSD such as plantations, water harvesting structures etc., the other 7 NGOs experienced considerable difficulties in the areas of technology, overall management, as well as mobilization of all the village groups to implement the project. Most of the shortcomings were in the area of social engineering, record keeping and maintenance, quality of work and technology especially with respect to soil conservation measures and plantations.

To address this, WOTR organized several exposures and training programmes involving government departments and technical support organizations.

However, it was felt that a comprehensive integrated and focussed methodology had to be evolved specially if more small NGOs had to be involved. WOTR thus developed in 1993 the Capacity Building (CB) Programme, the heart of which is the POP.

This has now resulted in a fairly substantial expansion of the programme, in terms of NGOs, WSs and gross area involved. From 9 NGOs in 1992 and a gross area of about 13,000 ha. the programme now has over 55 partner NGOs and covers an area in excess of 93,000 ha.

What is particularly heartening is that the bulk of the NGOs entering the programme are small NGOs, with no previous experience in large scale WS management. As they progress further during the CB, one can actually see measurable differences in their ability to organize people and implement a project.



Furthermore, it is observed that initially villages come forward because of the availability of assured employment opportunities within their WS. However, in the course of time as they acquire greater skills in both managing and executing project measures and realize and enjoy the benefits thereof, social cohesion increases as well as a sense of identity and ownership of the project. This is particularly evident from the changed way they look upon their environment, in the reduction of offenses of grazing as well as a result of effective social fencing and a sense of confidence in their capabilities to weather lean years (i.e. poor rainfall). Moreover, many of these villages have practically mastered/acquired sufficient familiarity with the principles of WSD so that they can now teach and motivate other villages.

The time required for motivating and mobilizing new villages has in fact drastically come down from 9-12 months to 3-6 months. Thus has been further accelerated due to the "core-cluster" strategy followed which has resulted in a significant "demonstration effect" being obtained.

On relationships with institutional actors

The Program's insistence on close interaction with government departments, the political establishment and banks has been validated. Not only has the Government of Maharashtra passed enabling orders extending support to the programme but, in a remarkable gesture of facilitation, NGOs and SHGs are permitted to treat forest lands under the concept of joint forest management. A government officer of the Forest Department has been deputed to the Programme.

Furthermore, NGOs in the Programme are supported by local government agencies who also extend other development schemes to project areas. The involvement of NABARD has facilitated the involvement of local banks in extending credit support to project areas. Credit is usually availed of for the purchase of milch cattle and farm machinery.

Women's promotion

The women's development sector of the Programme, was launched in late 1995. It has been observed that while WSD does increase the chores and burdens of women they nevertheless are willing to accept the extra work load as well as the hardships for 3 primary reasons :

- They want to have access to a steady flow of income in order to enjoy food and financial security, specially for the times of crises e.g. if abandoned by their husbands or widowed.
- They want to ensure the future of their children by sending them to school, because they realize that unless their children get educated, their lives would be as filled with hardships as their own, if not more so.
- They want to participate in decision making at home (utilization of funds, upbringing of children, land use and village affairs) and thus be accepted and respected by society.

With the efforts put in since its insertion in the main program, women's self-help groups have been formed in all projects. To date, the money saved serves as loans responding to their consumer needs. Most women's groups are on the search for relevant marketable income generating projects.

Besides, the other developmental activities of improved chulhas, kitchen gardens, health programs etc., other activities that have caught the attention of the now organized women are non-formal "learning sessions" and participation in land use planning and more women are volunteering to supervise and measure the work on

the watershed sites. Their vocal participation in the Gram Sabhas and VWC meetings is notable though there is yet a long way to go.

CONCLUSIONS

Today WSD is viewed as an efficient and effective way of not only restoring the environment, but also of addressing the issue of poverty directly. However, unless it becomes a "peoples movement" it will not have the necessary impact and will not get the support and resources necessary from government and other framework institutional actors.

In order that the sparks of a participatory environmental effort spread into an all inclusive movement the necessary conditions, especially in terms of enabling frame conditions, as well as institutional capabilities must exist. Getting the right actors who possess the appropriate competencies and capabilities holds the key to large scale cost effective replication and sustainability.

ENDNOTES

- 1 Fr. Herman Bacher, a Jesuit priest, is the founder of the Social Centre, a voluntary agency which did pioneering working laying the foundation for a large scale effort at watershed development. He is also the founder Chairman of the Watershed Organisation Trust (WOTR) which is the co-ordinating and support agency of the IGWDP.
- 2 Gram Sabha: Village meeting consisting of all adult members of the village.
- 3 WOTR is the co-ordinating agency of the IGWDP and is mandated to assess, qualify and build up the capabilities of NGOs and VSHGs who have had no previous experiences in WSD.

