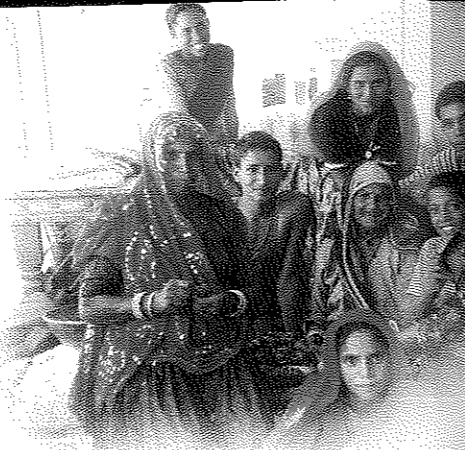


## PARTICIPATORY WATERSHED DEVELOPMENT APPROACH

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### INTRODUCTION

Participatory watershed development in India has been evolving from consent to consultation to contribution. However, people's participation in government/ NGO/donor projects is not the ultimate goal. The ultimate goal is that watershed development and natural resource management should be people's programmes and GOs/NGOs/donors participate in these as stimulants, promoters and facilitators by creating enabling environments through sociological, technological and financial support.

We have to go a long way to reach real participatory approach. Before we march ahead, it would be useful to look back as to how the participatory approach has been evolving so that we can appropriately orient our thinking, plans and programmes for the future.

#### Consent phase

After Independence, India was faced with serious problems of food shortage and hunger, droughts and floods, weak industrial base and widespread poverty. The country opted for planned development and adopted the Tennessee Valley Authority model, which was initiated in the Damodar Valley, to construct dams and reservoirs on all the major rivers for expanding irrigation for food security, control of floods and droughts and for generation of hydro-electricity for accelerated industrial growth. Accordingly, a number of multipurpose dams and reservoirs were built in different parts of the country under the inspiration of TVA. Simultaneously, building upon the experiences of TVA and in technical cooperation with the U.S. Soil Conservation Service watershed development was initiated primarily to control the siltation of reservoirs. A chain of Soil Conservation Research, Training and Demonstration centres were established to train technical manpower, adapt the technology and develop demonstration models in the 1950's. During this period a legislative framework was created and many states passed Soil Conservation Acts on the pattern of Model Acts drafted by the Union Government under the guidance of the U.S. Soil Conservation Service.

Thus after creating institutional, organizational and legislative frameworks the first watershed based scheme 'Soil Conservation Works in the Catchments of River Valley Projects' popularly known as RVP was launched in 1962-63 and is continuing in the catchments of many reservoirs. Soil Conservation Acts of different states provide for consent of a minimum percentage of land owners, whose holdings are located within the watershed boundary for taking up soil conservation works.

Since most of the rivers are interstate rivers and also the benefits of irrigation are available to downstream farmers, the funding of the works was done by the union and state governments.

Though there is provision for recovery of funds spent on individual landholdings after allowing subsidies, there has been negligible real recovery. In practice, the watershed schemes have been planned, implemented and funded as public works characterized by tenders, work orders, contractors, measurement books and technical manpower duly trained in conventional soil conservation technology.

It is significant to note that skills and attitudes, mindset and thought processes, procedures, rules and conventions, legislative frameworks, state funding and subsidies, total government funding on common lands and on drainage lines, relative roles, functions and responsibilities of the outsiders and local watershed community etc. which evolved during this initial consent phase, provided the basis for all schemes launched subsequently:

- Drought Prone Area Development Programme (1972-73)
- Desert Development Programme (1977-78)
- Integrated Agricultural Development Scheme (1972-73)
- Integrated Watershed Management Scheme for Flood Control in the Catchments of Flood Prone Rivers (1982-83)
- Propagation of Watershed Conservation/Harvesting Scheme (1982-83) - Model Watersheds.
- National Watershed Development Project (1985-86)
- All other GO and NGO Watershed Development Projects

The Consent Phase mindset which influenced all the projects launched in the 60s and early 70s, still exercise varying degrees of influence on all ongoing schemes. The value systems, behaviour patterns and reaction response of field workers and farmers are still conditioned to a more or less extent in watershed development projects, which is characterized by state funding, subsidy culture and dependency syndrome. All these have a bearing on the participatory watershed development approach.

#### Consultation phase

After completion of the project period when project staff moved out to other micro-watersheds, problems of maintenance of the structural measures emerged in the 1970s. At places, contour bunds and check dams breached, at some others, farmers levelled down contour bunds. Often channelised flows from wasteweirs created new gullies and in some cases treated watersheds started degenerating. The need for maintenance and upkeep of structures was felt.

Discussion with landholders indicated that these works were constructed by outsiders without due considerations for agricultural operations and often created problems like loss of a strip of crop land due to temporary surface ponding of water standing against contour bunds/loss of crops due to submergence around check dams etc. This situation demanded that farmers should be consulted in the choice and design of structures on or near their lands. Instructions were issued in the mid-70s to consult farmers but in practice the consultation was only a formality, and involvement of local communities was limited.

#### Contribution phase

In the late 1970s and 1980s it was realized that mere consultation was not enough. Moreover, there was no indicator which could bring out the degree and quality of consultation. The real proof of people's participation would be evident when the beneficiaries contribute a part of the cost of treatments, mostly as labour. If the farmers/users make contribution they would pay for what they want and not for what is imposed on them by outsiders. However, there are many problems that would have to be resolved. Who pays for the common works? In what form should contribution come - cash, kind or labour? Quite often, wages are paid at reduced rates or one day in a week labourers work without wages. In such a situation only labourers contribute whereas benefit from common property resources like digging/deepening of village pond is utilized by the entire village population. Many operational details are yet to be worked out.

## NEED FOR PARTICIPATORY APPROACH AND SCALING-UP

The decade of the 1980s was characterized by despair, disappointment and doubt about the utility and impacts of watershed development programmes as macro-objectives of control of siltation of reservoirs, drought mitigation and increasing/stabilizing yields of rainfed crops were not achieved. This led to scrutiny and introspection. The Government appointed a High Power Group of Secretaries under the Union Cabinet Secretary to review the Watershed Development Programme as a whole and committees were constituted to examine individual schemes. The following facts and figures emerged from the review, analysis and findings with reference to major projects:

Project Scheme	Problem Area (Lakh Ha)	Area treated till 1990 (Lakh Ha)	% of the Problem Area treated	Period needed for treating the Area in years at 1990 rate (years)	Funds required to treat the Area at 1990 unit cost (approx) (in crores)
River Valley Project (RVP) (1962-63)	a. Total Area 692.07	26.15	3.70	760	25,000
	b. Priority Area in urgent need of treatment 179.85	26.5	13.90	207	5,800
Flood Prone River (FPR) 1983-84	a. Total Area 167.42	3.94	2.35	340	6,100
	b. Priority Area 43.00	3.94	9.00	87	1,603
Drought Prone Area Programme (DPAP) and Desert Development Programme (DDP)	916.00	46.00	5.37	335	87,000
National Watershed Development Project (NWDPR)	750	10.00	1.33	100	30,000

(The problem areas are common for some of the schemes, though different scheme papers indicate the problem areas for each scheme. Thus the figures are only indicative. Nevertheless, the figures indicate that physical and financial dimensions are large).

## THE ANALYSIS BROUGHT THE FOLLOWING REALIZATION INTO SHARPER FOCUS

### Microscopic coverage and the need for scaling up

Since coverage was microscopic as a very small fraction of the problem areas was treated, overall macro-impact could not be generated though at micro level many projects created appreciable impact. It was realized that unless large areas are treated in the foreseeable future the overall national objectives of control of siltation of reservoirs, mitigating droughts and floods and enhancing production of rainfed crops would not be achieved.

The scaling up of watershed development programmes was essential to minimize the suffering of the people during droughts and floods and alleviating poverty through optimum and stable production from vast rainfed lands/degraded areas.

## The need for participatory approach

But how to scale up? If only the Government carries out watershed development it would take centuries to treat the problem areas. If NGOs also do the job of watershed development, even then only limited areas could be treated. Therefore, the real need was for a participatory approach; Let the people do the watershed development and outsiders facilitate and create enabling environments. Similarly, the government cannot provide the astronomical amounts of funds needed for vast problem areas. Therefore, people's contribution and adoption of low cost indigenous technologies were essential. Also upkeep, repair and maintenance of works cannot be done by outsiders as works are scattered over large areas all over the landscape and also because maintenance is a continuous process. Only owners/users can take care of the assets on a regular and continuous basis as they have the highest stake in the natural resources of water, soil, vegetation etc. on which their survival/welfare depends.

## National policy direction

These realizations shaped the Government's policy direction: Both major ministries viz. The Ministry of Agriculture and the Ministry of Rural Development made policy pronouncements for participatory approach in their Guidelines for Watershed Development Projects.

### Ministry of Agriculture, Government of India

The Ministry of Agriculture's (1990)<sup>1</sup> Policy direction is as follows:

"Group Activity and Community Action - The project will operate either through established democratic decentralized institutions like Village Panchayats or promote development of specific organizations (informal groups) to participate in project survey, planning and preparation, implementation and especially in post project maintenance and operation of community assets. Community prizes would be instituted for maintaining common property assets and for active participation of all sections of society. Such activities can be funded from the reserve fund provided in the project. The basic objective behind public participation in this project is the ultimate goal, though a distant one at present i.e., to convert the watershed development project from a government scheme to a people's movement. In fact, ultimately, the NWDPR should become a people's programme and the government would participate in it to provide necessary support. Organizing self regulating beneficiary groups to implement the project would succeed in institutionalizing peoples involvement".

**Role of NGOs** "Voluntary agencies whenever available would be actively involved in the project particularly for following four kinds of activities:

- Creation of awareness regarding farming systems approach;
- Training of field functionaries and beneficiaries and preparation of training materials for farmers;
- Evaluation and monitoring of project activities and their impact from people's point of view; and
- Promoting self-help thrift groups hamlet-wise to manage composite nurseries and take up greening of degraded lands."

The strategy is that government field functionaries and NGO field organizers would converge on the village, stimulate self-reliance and local initiative and organize people in self-help groups, vocation wise. A group of five promising village youth one from landless families, one from marginal and small farmers, one from progressive large farmers, one from animal rearers and one woman would constitute Mitra Krishak (friends of farmers) who would be trained and would spearhead people's

*The basic objective behind public participation in this project is the ultimate goal, though a distant one at present i.e., to convert the watershed development project from a government scheme to a people's movement*

participation. One representative from each self help group would constitute Mitra Krishak Mandal (watershed development committees) for the entire watershed.

In view of the current power structure in the village and to achieve the objective of equity-equitable distribution of benefits-over various sections of the village population, the responsibility would be given in an increasing manner as their capacity to maintain accounts, group dynamics, conduct meetings and take joint decisions in a transparent manner, increases.

The NGO would organize and train groups and communities in social aspects and government staff would increase their capacity in technical and financial matters and procedures. Thus GO/NGO participation is envisaged to enable the households, groups and village watershed community to manage natural resources of water, land, plant and animal within the watershed for sustainable bio mass production to enhance the livelihood support systems of rural households.

#### Ministry of Rural Development, Government of India

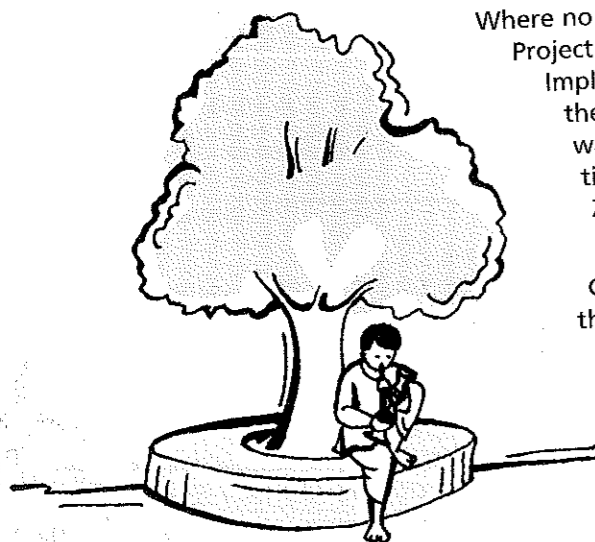
Scaling up Watershed Development and Participatory Approach: Ministry of Rural Development (1994)<sup>2</sup> envisaged to scale-up their projects (DPAP, DDP and WDP) by broad-basing the Project Implementing Agencies. Their guidelines are as follows:

**Project Implementation Agencies** "While the DRDA or the Zilla Parishad would administer and co-ordinate implementation of the programme at the district level, it is desirable and necessary to involve Voluntary Agencies and other institutions such as Universities, Agricultural Research and Training Institutions, Corporations, Co-operatives, Banks, Public and Private Commercial Organizations, Panchayati Raj Institutions and Government Departments in planning, coordinating and supervising the formulation and implementation of Watershed Development Projects in groups of selected villages. The role of the Project Implementation Agencies (PIAs) will be to motivate the Gram Panchayats to pass the necessary resolutions to make public contributions, conduct Participatory Rural Appraisal (PRA) exercises to prepare the development plans for each watershed, undertake community organization and training for the village communities, provide technical guidance and supervision of watershed development activities, manage project implementation, inspect and authenticate project accounts, undertake action research to adapt low-cost technologies and/or validate and build upon indigenous technical knowledge, monitor and review the overall project implementation and set up institutional arrangements for post-project operation and maintenance and further development of assets created during the period.

Where no Voluntary Agencies (VAs) or other institutions are available to work as Project Implementation Agencies, the ZP/DRDA may act as Project Implementation Agency by constituting Watershed Development Teams in the same manner as other Project Implementation Agencies. As the watershed development projects have to be completed within specific time schedules, while constituting Watershed Development Teams, the ZPs/DRDAs may ensure that no permanent staff are recruited".

Projects are being implemented through a multitude of PIAs and Gram Panchayats where participatory approach is the soul and heart of the programme.

Programmes also vigorously promote formation of user groups and training of their members, constitution of Watershed Associations and Watershed Committees. Thus the Ministry of Rural Development relies heavily on participatory approaches.



## STIMULI AND FACILITATION FROM EXTERNALLY AIDED PROJECTS AND DONORS

While the realization for participatory approach was building up in the government (union and states) systems during the 80s and 90s, some of the international agencies for development co-operation started projects based on the participatory approach:

### SDC and MYRADA - Project for Participatory and Integrated Development of Watershed (PIDOW)

PIDOW was launched in 1985 jointly by the Swiss Development Cooperation, MYRADA and Government of Karnataka in Gulbarga district. In the first two phases (1985-91) technical advice was provided the line departments and MYRADA and most of the activities- planning, implementation, evaluation etc. were participatory in manner, where people were organized in sanghas (self help groups).

Even women's sanghas implemented micro-watershed activities which are still sustaining. The project emerged as an appreciable model of self help culture credit management, participatory development, reliance on indigenous technologies, livelihood support systems enhancement and sensitivity to equity.

However, in the 3rd phase (1992-94) Dryland Development Board (DLDB) took charge of the technical aspects of the project as a new entrant. The participatory approach was somewhat diluted in practice, probably because all the partners did not have the same degree of commitment, understanding and attitude for it. Nevertheless, PIDOW inspired and facilitated GOs and NGOs towards participatory approach and significantly oriented national policy approach and strategy.

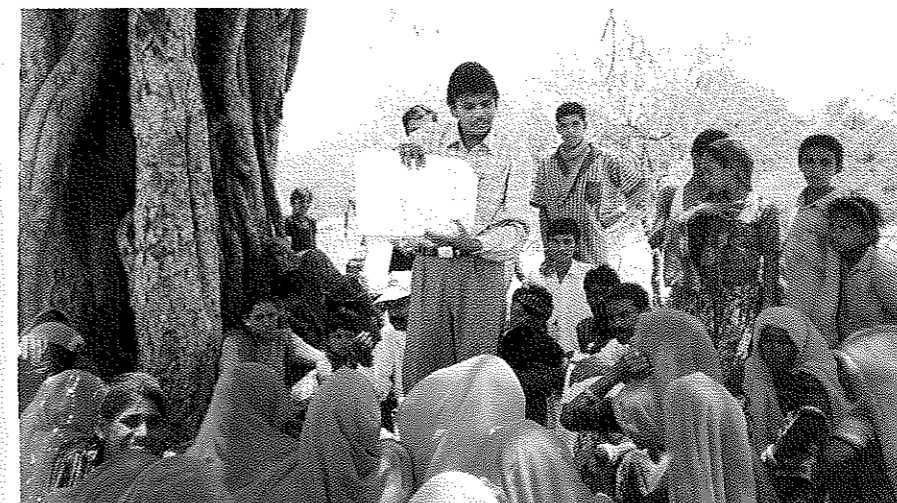
### World Bank aided pilot-project for rainfed areas

Launched in 1983-84, it created a variant model of participatory approach. People were organized into sanghas. The project staff underwent a process of 'de-learning' and 're-learning' to promote people's participation. This exercise was a first shot in developing a positive attitude towards participatory approach in government field functionaries.

### Danida aided watershed development project

In consonance with the thrust of Danish International Assistance on 'poverty alleviation' and 'socially balanced economic growth', Danida's Comprehensive

Watershed Development Projects, concentrate on enabling the rural households, particularly the poor and disadvantaged rural families to enhance their livelihood support systems through participatory approach with the household as the primary unit of development. This concept of enabling people to manage their own natural resources was commended by the Government of India and incorporated in national projects.



### Projects by other donors/financing agencies

The Indo-German Watershed Development Project of Father Bacher in the Ahmednagar district of Maharashtra, the EU supported Doon Valley Integrated Watershed Development Project, Dehradun, U.P., the Farmer Centred Agricultural Resource Management (FARM) of FAO/UNDP and the Participatory Watershed Management Training in Asia of FAO/Netherlands (PWMTA) etc. made significant contributions to the evolution and promotion of participatory watershed development approach in India.

### NGOs models of participatory Watershed Development

During the 80s and early 90s a number of NGOs created excellent models of participatory watershed development. The Ralegaon Siddhi Model of participatory watershed development of Anna Hazare attracted countrywide/worldwide attention. Chakriya Vikas (Cyclic Development) of R.P. Mishra in the poor Palamau district of Bihar inspired planners, policy makers, technocrats and field functionaries. There are a number of models of participatory approach to watershed development in the country under the inspiring leadership of enlightened individuals which cannot be mentioned for reasons of space.

### SIDA's publication "From Soil Conservation to Land Husbandry"<sup>3</sup>

This publication highlighted the following quote from Hudson (1992): "Soil Conservation was appropriate when we were mainly concerned with increasing the knowledge and awareness of soil degradation and learning how to decrease the process. But that was mainly a defensive strategy, and what we now seek is a positive approach where care and improvement of the land resources comes first and control of erosion follows as a result of good land husbandry".

This publication made significant changes in the attitudes and perceptions of practitioners of watershed management in India in favour of a vital role for land holders/users and the participatory approach. Some of the myths were broken and farmer-centred development approach was seen as a central point in the national strategy of watershed development. This publication also demonstrated on the basis of 30 years experience that indigenous simple practices that have evolved over a long period of time are scientific and would form a firm basis for real participatory approach in natural resource management.

### Chambers et al (1989)<sup>4</sup> published 'Farmer First'

This publication emphasized the value of participatory technology generation and recommended a new paradigm for participatory development. Chambers made a valuable contribution by initiating and expanding PRA and RRA methodologies which provided valuable tools for participatory approach to GO/NGO systems.

## PARTICIPATORY APPROACH IN DANIDA SUPPORTED WATERSHED DEVELOPMENT PROGRAMME

The Danish Development Assistance (1990)<sup>5</sup> a policy document states as follows: "The reduction of poverty constitutes a fundamental principle of the Danish Development Cooperation. This principle is emphasized in the new development strategy. Efforts designed to concretize poverty reduction will continue at all levels". In consonance with this policy, attempts are made to follow a participatory approach in watershed development which is characterized by the following:

### Socially balanced economic growth

Rural poor-landless, marginal farmers, village artisans and women should participate in a fruitful manner. Generally, watershed development used to be a land-based activity and benefits of investments were shared in proportions to size of land holdings of different families. Rural poor were marginalised as far as benefits were concerned. DANIDA projects follow 'biomass-based' watershed development projects so that livelihood support systems of weaker sections, which depend on biomass processing, cottage industries, rearing of small ruminants, backyard poultry, kitchen gardening, bee-keeping etc. are enhanced and rural poor also participate in a meaningful manner.

### Sustainable and viable groups, organizations and mechanisms through main streaming

To sustain participatory organizations, processes and mechanisms after the project periods, attempts are being made to mainstream the project created systems, to general development systems line departments, credit institutions etc. - so that the project areas do not stand in isolation.

### Participatory approach - a dynamic and evolving process

As experience accumulates and strengths and weakness are known, the processes and systems are being appropriately modified, restructured and evolved to sub-serve the basic purpose of participation by all sections of the watershed community.

### Participatory approach rooted in socio-economic settings of the watershed areas

Different variants of the participatory approaches are being followed in view of diversity in levels of village power structure, social composition of village population, level of literacy, level of technology absorption etc.

Financial assistance is given in a phased manner so that influential people of the villages do not see large amounts of money available for grabbing. Also executive committee members are changed after an agreed period (2 years in some projects) so that only a few people do not monopolize participatory institutions.

### Participatory Approach in different DANWADEP projects

#### Karnataka Watershed Development Project

**Phase I** This project was formulated in the late 1980s and launched in 1990 and the first phase covered 1990-96. Initially people's participation was more of a consultation arrangement. However, in 1993, the participatory approach was intensified and accelerated. The basic strategy has been to develop the capacity of the implementing agency- State Agricultural Department for promoting participatory approach within the department rather than assigning social aspects to NGOs. Junior project officers (JPO) have been recruited, trained in social methodologies (extension techniques, PRA, RRA), accounting, book keeping, group dynamics, organizing people etc. and deployed full time on people's participation.

They organize village meetings and select two link workers (1 male and 1 female) who are volunteers to serve as a kind of spearhead group. In each village watershed development committees are constituted. Thus project technical staff,

*An elaborate training schedule indicating various stages and steps for participatory learning, planning, implementation, monitoring and evaluation has been adopted to enhance the capabilities of all the stakeholders*

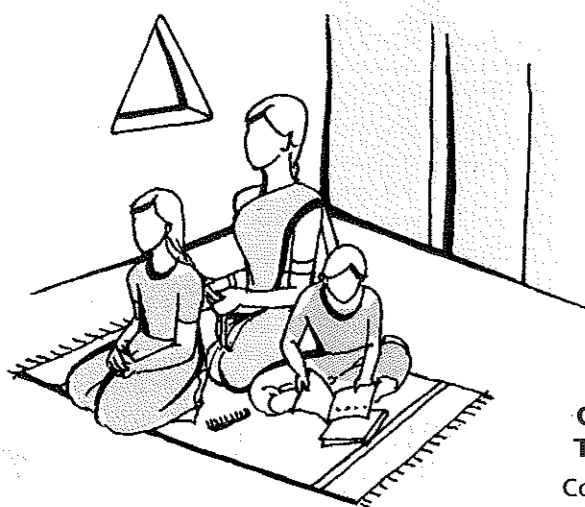
JPOs, watershed development committees together carry out planning, implementation, monitoring, etc. At watershed level - Taluka level - there is a watershed operation group where representatives of village watershed development committees, elected members of Panchayati Raj Institutions, selected heads of the line departments (forestry, horticulture etc.) participate and recommend plans for approval by the district co-ordination committee under the chairmanship of the Chief of Zilla Parishad.

**Phase II** Based on the experiences gained in Phase I the participatory process has been refined, fine-tuned and re-structured.

- Broad based and more representative participatory organizations: Instead of electing a village watershed development committee from the entire village, now self-help groups, users groups or groups around common interests representing gender, occupation, land holdings (MF, SM, OF), social classes (SC, ST, OBC) are first constituted. One representative of each group constitutes the village development committee. Elected Panchayat members of the village are also members of the VDC. These members elect their executive committee.
- Rotational Leadership: Executive committees of the VDC are rotated once in 2 years.
- Intensive and structured training: An elaborate training schedule indicating various stages and steps for participatory learning, planning, implementation, monitoring and evaluation has been adopted to enhance the capabilities of all the stakeholders viz. project staff, members of the self-help groups, watershed development committees for technical, social and financial aspects of the project and record keeping.
- Operational VDC: 20-25 member VDCs are operational and more effective. If necessary two or more VDCs may be constituted depending on the size and diversity of the village.
- Clarity for roles, responsibilities and accountability: Clear roles, functions and accountability of different stake-holders have been jointly worked out.
- Village General Body: A village general body comprising one representative from each household is organized. Once in every six months VDCs/project staff would present their action plan to the general body and would be accountable for it. This process would bring about transparency.
- Preparation for participatory approach: The first project year is devoted to creation of awareness, joint learning, building trust and confidence, organizing self-help groups, village development committees, participatory training, PRAs and developing plans. No bio-physical works will be done.

- VDCs would be given funds for implementing all works on common lands, make payments and keep records. Individual landholders would be given funds for implementing works on their own lands in instalments.
- Participatory Monitoring and Modifications: SHGs, VDCs and project staff would undertake periodical self evaluation exercises and make modifications, remove bottlenecks and resolve conflicts if any.

**Comprehensive Watershed Development Project Tirunelveli and Ramanathapurma, (Tamil Nadu)**  
Comprehensive Watershed Development Project's - Tirunelveli and Ramanathapurma were launched in 1991 and 1994 respectively in



the southern part of Tamil Nadu state to rehabilitate degraded lands prone to wind and water erosion. Initially shelter belts were main activities and participation was limited to 'inform' or 'consult' the beneficiaries about the project which was like a public work fully funded by the project. But later on, a participatory approach was adopted.

The strategy is to involve NGOs along with government field functionaries so that needed attitudinal change may be brought about. NGOs deputed their experienced staff as community organizers. Then the GO, NGO combine reaches the villages and start interacting with the rural households. The process starts with the selection of villages and moves along the following route:

Discussions between GO/NGO staff and beneficiaries ↑ rapport and confidence building ↑ further visits and discussions ↑ formation of association and election of office bearers ↑ drafting and approval of by laws ↑ training of village development association/executive committee members ↑ socio-economic surveys ↑ situation analysis and dialogue ↑ participatory watershed plan formulation ↑ implementation responsibilities time schedule and budget ↑ joint evaluation and reporting.

Salient features of the participatory process is as follows:

- All families are members of the Village Development Association
- Savings - linked Financial Assistance: If the Farmers' Association opens an account in a bank/post office and save for 3 months a matching grant upto Rs. 3000 is given to meet expenses for stationary and expenditure related to conducting meetings, office expenses etc. If the association carries out savings and generates interest, a seed money of up to Rs. 5000 is also provided as 'seed money' for lending to their members on interest, to purchase implements for hiring out to members on charge. Also their money is used for raising nurseries, taking up jobs of watering, guarding and other works and in the process eliminating contractors. The Project helps them to take advantage of NABARD's short terms loans for purchase of seeds and fertilizers, pesticides etc. for their members. Thus associations are financially integrated with the mainstream rural credit and are seen as becoming self-sustaining to support their members. After the project period they would continue to function.
- Broad-based functions of the Village Development Associations beyond the project activities: These Village Development Associations take up all aspects of village development, such as health care, education, economic activities, common interest and welfare activities. The Project does not provide any funding beyond the project activities but helps them as facilitators and informs/encourages them to take full advantage of various government/NGO schemes operating in the area.

#### **Comprehensive Watershed Development Project-Koraput (Orissa)**

This project was formulated in the late 1980s and formally launched in 1992 for a 7 year period in Koraput and Malkanagirre districts of Orissa which are drought prone. The landscape is undulating and high intensity rains generate tremendous run off and soil erosion. The population consists of a high proportion of tribals who have their own traditions but very low level of literacy. The participatory approach attempts to combine tribal customs and Panchayati Raj institutions:

- Village Committees headed by traditional tribal head: A village level committee under the traditional village headman and one representative of each of the landless, women's groups and small and marginal farmers is constituted in all village meetings.

- Youth facilitators: In the village meetings two youth facilitators (one male and one female) are also selected who facilitate participatory development. Youth facilitators are paid a small honorarium and provided a bicycle for improving mobility.
- Involvement of NGOs: For each watershed NGOs working in the area provide one male and one female field organizer, who are paid by the project and provided with motor cycle/moped for mobility.
- Watershed Development Committee: Four representatives of the village committee (one traditional headman, one woman, one landless and one small and marginal farmer) from each village constitute the Watershed Development Committee. The chairman of this committee is the elected Panchayati Raj Sarpanch, whose Panchayat covers the maximum number of villages.
- Self Help Groups: Occupation wise/gender wise SHGs are also constituted.
- Intensive training: Project staff, NGO staff, members of village and watershed development committees, youth facilitators, SHG members are given orientation training and told about their roles and responsibilities. Continuous training is provided in technical, procedural and financial management repeatedly to project staff, NGO youth facilitators throughout the project period to build their capabilities slowly and systematically in view of their low absorption capacity.
- Joint survey and planning: Technical surveys are done by the project staff and socio-economic surveys by NGOs and youth facilitators and members of village/watershed development committees take active part. Joint planning is done by visiting individual holdings where the landholder is involved as a key person in choice of treatment. For common lands and CPR, GO/NGO staff, facilitators and committee members visit the site and develop a plan. This plan is discussed and finalized at a village meeting. Such village plans are combined to make a watershed development plan which is finally approved by the watershed development committee.
- Joint implementation and monitoring: Contractors have been totally eliminated. Village committee members ensure that labourers from the same village or adjoining villages are employed and paid full minimum wages. So far technical monitoring by tribals has been weak. But as we are moving towards indigenous technologies which locals understand better, they are involving themselves with confidence. For example, in locating the 'Chua' (water-table) to store water to sustain crops during the dry period, the tribals have exhibited tremendous skill and wisdom.



- Savings-linked gradual financial assistance: Self-help groups of household production systems (basket-making, poultry) and Mahila Kisan (women's agricultural) Nurseries first open their account in bank/post office and save some money regularly for 3 months. Thereafter, the project provides financial help at the rate of Rs. 1000 in instalments as their performance improves and their capacity for financial management, book keeping etc. is enhanced. Initially the financial assistance was Rs. 1000 which has been raised to Rs. 3000 per family but the funds are provided in 3 instalments linked to performance.

Thus in this tribal area technical and financial literacy is being slowly improved to stimulate local initiative and self-help culture and break the dependency syndrome.

## CONSTRAINTS AND CONSIDERATIONS IN PARTICIPATORY APPROACH FOR WATERSHED DEVELOPMENT

### Harmonizing village boundaries and watershed boundaries

Villages are administrative or revenue units and their boundaries are man made as per administrative convenience/revenue considerations. But watersheds are geo-hydrological units made by nature. Often their boundaries are not co-terminus. Whereas bio-physical activities are based on natural boundaries, participation is based on villages (village development committees etc.). Quite often people reside in one village in the watershed but their land holdings are fully or partially outside the watershed. Conversely some farmers live in villages located outside the watershed but own land inside the watershed. Sometimes natural watersheds cover parts of many villages. In view of these ground realities the harmonization of natural units with social units becomes problematic.

### Harmonizing short terms socio-economic needs and long term ecological considerations

Watershed development in degraded areas aim primarily for regeneration of natural resources of land and water and restoration of ecological balance. Benefits accrue in due course of time and impacts are created after some time (5 -10 years). But people in such areas are resource poor and face hardships. They want immediate solutions of there immediate problems of drinking water, food, fuel, fodder and cash flow. Special efforts would have to be made to combine short term benefits with long term impacts, which is not an easy job.

### Equity considerations

Pattern of land holdings and village power structure are set in favour of a few rich and influential families which manage to corner most of the investment and a majority of the rural poor do not get equitable share. Households and self help groups would have to be made the primary units of planning. Disturbing village power equation and social tensions management often create problems. Innovative measures and special skills would have to be instilled into field functionaries to handle behavior pattern and resolve conflicting interests.

### Harmonizing technical requirements with local preferences

There exists a system where plan proposal by field functionaries are examined and technically approved at higher levels. The participatory approach is a bottom up 'planning' some times site, design and dimensions of structures proposed by village organizations are not technically sound. The problems of harmonizing social choice with technical considerations have to be worked out. In practical working such situations often create conflicts.

### Local people's priorities and scope of activities taken in watershed development

When participatory processes are initiated and villagers are requested to indicate their preferences, often drinking water supply, a link road to the village, a bridge on local river, a primary school or a village hospital and health care - are mentioned as top priority in drought prone areas. When the discussion comes to agriculture, canal irrigation or government tube wells appear high in local priorities. Regeneration of

natural resource base and slow but steady benefits which watershed development generates do not catch the attention of opinion leaders who want to show quick results in minimum time for populist reasons. How to enlarge the scope of the watershed development to match the ambitions and priorities of local people while retaining the natural resource management focus needs special attention.

#### Subsidy culture and dependency syndrome

Local people perceive soil conservation works as government/donor programme at sponsor's cost. They are rather hesitant to own the programme and perceive outside help only as an enabling input. Moreover, subsidies available at different rates in different schemes also aggravate the problems.

#### Lack of enlightened local leadership committed to natural resource management

Many successful watershed development projects are inspired by committed local leaders like Anna Sahab Hazare, who promoted self-help culture and participatory approach. There are few local leaders who are committed to natural resource management with in-depth knowledge, dedication and patience.

### CONCLUSIONS

In conclusion, there is an encouraging policy environment in favour of participatory watershed development. There are many successful examples from various parts of the country. But we have still a long way to go to reach the destination of real, fruitful and sustainable participatory approach.

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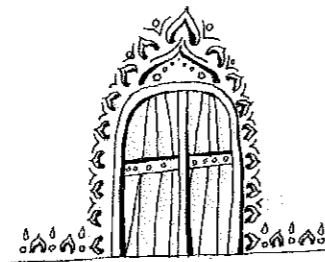
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## EVOLUTION OF INSTITUTIONAL FRAMEWORK FOR WATERSHED MANAGEMENT IN UTTAR PRADESH HILLS

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### INTRODUCTION

Watershed Management work started in Uttar Pradesh (U.P.) Hills in an integrated manner under the Hill Development Department in 1983, by launching two projects almost simultaneously viz. the World Bank funded Nayar-Panar project and the European Economic Union (EU) funded South Bhagirathi project. The World Bank funded project continued up to 1991. The EU funded projects are still continuing. The ongoing EU funded Doon Valley Project (DVP) started in 1993 and will last up to December 2001. The World Bank is going to fund a new IWDP Shivalik project from the year 1999 for a five year period.

### THE EVOLUTIONARY PROCESS

The watershed management projects started in the early 1980s when rigidity of sectoral approach was slowly loosening its stranglehold on the working process. Added to it, the foreign donors encouraged flexibility and innovation as their work philosophy, and encouraged the evolutionary system of working and thus watershed management projects evolved on many fronts.

In this article, evolution on three main fronts viz. "Component Spread", "Administrative Structure" and "Participatory Process" will be discussed."

#### Component spread

The watershed management projects were originally conceived primarily as forestry and soil conservation projects. Soil erosion is not confined only to forest land. There is a marked increase in erosion from agricultural lands as well. Soil conservation on agricultural land cannot be confined to only soil conservation structures but should include proper agricultural practices. The farmer must be encouraged to improve and maintain their terraces and cultivate only on level land along contours. Intensive agriculture should be encouraged over extensive agriculture. Production needs to be increased by improving productivity and not by cultivating on sloping areas.

It means that the agricultural work be confined mostly to only level or near level land. All sloping areas must be taken out of regular agriculture and put under more permanent vegetative cover. Generally the land holdings in the hills are small and asking the farmers not to cultivate a portion of land will impinge on their earning capacity. Thus it became imperative that they be encouraged to get higher returns from their level lands. It can be done by providing irrigation where possible and improving the productivity by use of better quality seeds, more manure and fertilizer and by adopting better tillage practices. Thus agriculture development must be a part of watershed management.

Providing irrigation means introduction of "Minor Irrigation" works such as making irrigation tanks, channels and water harvesting structures.

The sloping agricultural land cannot be left fallow. The sloping or badly terraced land must be put under horticulture associated with vegetable and under fodder

development. Therefore, horticulture development was included as an important watershed management component.

The major cause of environmental degradation resulting in the deterioration of watersheds was the shortage of fuel and fodder in the area. To mitigate the fuelwood shortage, forestry development was the primary activity as a "Supply Management" approach. Introduction of energy saving devices (e.g. solar cooker, bio-gas plant, special wood and kerosene burning stoves) was encouraged as an approach for "Demand Management" of fuelwood.

To manage the demand aspect of fodder, originally a cattle exchange programme was started to reduce the cattle pressure. By this scheme one buffalo (yielding at least 6 litres of milk per day) was given to a farmer in exchange for two low yielding cows. Farmers were willing to give 3 to 4 cows for a buffalo. In just two years time, nearly all the cattle pens in U.P. state were saturated and the Animal Husbandry Department asked for five crore (fifty million) rupees and 1200 ha. of land to keep scrub animals (about 22000) from the World Bank project only. This expenditure was felt to be too high and thus the provision of cattle exchange was converted into cattle breed improvement programme covering artificial and natural breeding along with castration. The hope was that this would encourage the people to keep only a few high yielding animals and it will result in lesser cattle pressure on the forest land and also encourage stall feeding.

Watershed management was confined to the 7 disciplines mentioned earlier upto 1993. Thereafter, the emphasis shifted to rural participation. Community participation became an important aspect. Within it, as an "entry point", a number of works were taken up such as provision of drinking water (hand pumps, tube wells), different types of training, etc.

Lately infrastructure development is being considered as an important aspect of development and it is now being proposed that the improvement, upgradation and repair of rural roads besides developing market places and post harvest activities should also be included.

The spread of watershed management activities covering more and more components is slowly diluting the very objective of the watershed management works. The core activities such as afforestation and soil conservation including water recharge practices are being relegated to the background and people oriented activities are being preferred due to their high visibility and quick appreciation.

No doubt watershed management does include all the above activities but care has to be taken that the primary or core objective of these projects are not lost, and watershed management projects should not become rural development projects only. Enthusiasm of people's orientation may dilute the very objective of watershed management works. At times too much stress on village-centered activities made the staff ignore inter-village spaces. Care has to be taken to avoid such oversights. A micro-watershed should be split into mini-micro watersheds

to have villages within it. Plans be made and executed on the basis of these mini-micro watersheds and not be confined to village boundaries only.

As a first step in this direction, it must be agreed that the core activities as afforestation, subsoil water recharge and soil and water conservation should at least be 60% of the work component and the balance 40% may be allocated for other supportive activities.



## THE ADMINISTRATIVE PATTERN

The administrative approach can be split into two distinct periods – 1983-88 period in which the working was under line department approach and the (post Mid Term Review of the W.B. project) unified command approach from 1988 onwards. The latter approach was modified in 1993. These three approaches are discussed as follows:

### Line department approach (1983 to 1988)

The project was implemented by the line departments and the role of the Watershed Management Directorate was limited to planning and providing funds to different departments to implement the planned activities. The line departments implemented the sectoral project activities under the administrative and financial control of their respective departments.

This was fraught with a number of problems. The major constraints were: lack of coordination between different line departments in implementation of sectoral activities; stereo-typed approach to tackle the problems in an isolated manner; looking at the project activities as a mere additionality to the departmental targets; lack of innovative temperament; absence of flexibility to accommodate the modifications and changes needed to meet the project objectives, etc. As a result, the works were scattered all over the project area and the efforts and resources were spread too thin over a large area. People's participation was negligible.

### Unified command approach (1988 to 1993)

It involved implementation of the project activities by a multidisciplinary team brought directly under the umbrella of the Watershed Management Directorate. The Project Director (PD) was the overall leader of the multi-disciplinary team. Under him were Deputy Project Directors (DPD) of different line departments with staff from their departments. Administrative and financial control was with the PD. The integration was at the PD level.

Bringing the project under unified command was a major shift in approach towards project management. It was aimed at ensuring integration of different project components as well as in planning and implementation of project activities. This gave a definite boost to the project, which was reflected both in quantitative and qualitative terms. There was better co-ordination in project activities belonging to different sectors and linkages among various activities were more emphasized.

### The present approach (1993 onwards)

The true spirit of an integrated watershed management as a single entity for the area was still not in place as the DPDs and their staff continued as independent line departments.

In the post 1993 era the multidisciplinary teams were made at the field working unit level. Each DPD has 3 to 4 units under him/her. These units at field level have persons from different departments with one team leader who may be from Forestry, Agriculture, Horticulture or other disciplines. The team leader is assisted by members from different disciplines and this team interacts with the village group to develop (PRA plan) and execute various activities. The intensive watershed management training programme and training in different disciplines became an integral part of this model.

This model ensured a much more unified and integrated approach at grass root level and works well with the new technique of PRA where intensive interaction of the project team with the villagers was imperative.

*Bringing the project under Unified Command was a major shift in approach towards project management. It was aimed at ensuring integration of different project components as well as in planning and implementation of project activities*



## PEOPLE'S PARTICIPATION

From the very beginning local people's involvement in watershed management activities was emphasized but its process has slowly evolved in course of time in the following three steps:

### 1983 - 1988 Period

The watershed management planning team would talk to the village headman and would make a plan, but there was no mechanism to ensure its implementation under the line department working there.

A state steering committee was made under the chairmanship of the Chief Secretary with secretaries and heads of departments of all concerned line departments and of Finance and Planning as its members. Its secretary was the Chief Project Director. A Regional Committee was made under the chairmanship of the Commissioner with "divisional" level officers of all concerned line departments as its members with the PD as its secretary. A subwatershed level committee was made with the District Magistrate as its chairman and district level officers of the line departments as its members and a DPD as its secretary.

These multiple layers of committees did not get local people's involvement as the project planning remained "top down."

### 1988 - 1993 Period

To involve the people in the project activities, micro-watershed committees were formed in each selected and operational micro watershed (MWS) with local farmers, people's representatives (like Gram Pradhan, Block Pramukh), NGOs, Mahila Mandal Dals, Yuwak Mandal Dals, local residents, etc. Regular monthly meetings were conducted in each selected MWS on a given date and venue, where the project programmes were discussed at length. The beneficiaries were asked to deposit a fixed percentage of the cost of individual oriented items provided by the project. This amount set as partial cost recovery from the beneficiaries was increased every year in an attempt to reduce the dependence of villagers on the project. However, the approach remained "top-down" and oriented towards achieving the pre-set physical and financial targets.

The relationship between project and the people still remained at a very formal level. People still felt that the watershed management is a government project and involvement of an ordinary villager was not there. The premise that involving the people's elected representatives will automatically ensure people's participation was not correct.

### 1993 Onwards

The Present Model - To overcome the shortcomings of the previous model it was decided that the project would go down to the villagers and stakeholders and interact directly with them. It was identified in the objectives of the project that "since man has been the agent of change in the process of degradation, he is placed centrally to the project's objectives and strategy".

With such strong emphasis on "man" it was natural that community participation be the focal point of planning, implementation and sustainable management of the project activities. Participatory Rural Appraisal (PRA) methodology formed the basis in this endeavor.

It has been realized that without active involvement of the local people from the very beginning, the project cannot sustain on a long term basis. The village

community must be involved in the planning process as well as in execution. They should be able to appreciate that they are equal partners in creating the assets. They must identify themselves as the true stakeholders in the project.

Most of the work in the hills is done by the womenfolk. Hence, they are the worst sufferers from the degradation in the resource base. Being the managers of the households, they are associated with almost all the works which have a bearing on natural resources, agriculture, livestock, horticulture, and household works. They are the worst victims of deterioration. They have to now travel even longer distances to collect fuelwood, fodder and water to sustain their families and cattle. It may be said that the local women were the cause and are now bearing the effect of the environmental degradation.

Hence, the project aims to particularly focus on women and the improvement of their situation by reducing the workloads imposed on them and enable them to generate income from other activities. This model is discussed in detail later.

## COMMUNITY PARTICIPATION IN THE DOON VALLEY PROJECT

The primary thrust of the project towards community involvement starts at the planning stage itself. Participative micro-planning based on the perceptions and felt needs of the village community form the foundation of a long-term association of the project with the villagers. For this, Participatory Rural Appraisal (PRA) is used as a tool. Participatory Rural Appraisal exercises are carried out over several rounds during the planning and implementation stages to ensure that people's perceptions are reflected in the village plans and they are actively involved at the implementation stage as well.

### Bottom-up approach

The targets of different activities originate from the villagers' own perceptions during the PRA exercise. Adequate flexibility is kept in the plans to incorporate new suggestions from the target group or any revisions needed in view of greater awareness generated during and subsequent cycles of PRA. Thus the project envisages adopting a "bottom-up" or "demand driven" approach for planning of the project activities. Being process-oriented, this approach needs constant adjustments in the thrust and direction of different items identified in the project document in accordance with the changes that are observed or realized by the people.

### Women motivators

Constant interaction with the target groups is the crux of the strategies adopted for ensuring involvement of the people. Since women are the major and most important section of the village population, their participation in the project is of utmost importance. However, a meaningful communication with them by a work-force, which is predominantly male, is often found less effective. To facilitate a two-way communication between the project team and womenfolk, women motivators have been engaged by the project. They support the project team in getting effective involvement of the women in the project activities and to inculcate a sense of belonging amongst them towards the assets developed through project interventions so that their participation is ensured. One female extension worker was also engaged in each village for the project period to act as full-time contact person in the village.



### Institutional aspects

Self Help Groups (SHGs), Gaon Resource Management Associations (GAREMAs), (Anon 1998c) women's groups etc. are formed in the villages to strengthen the institutional aspect of people's participation. These local level organizations become the moving force to involve local population and get their active participation in the management of their natural resources. Besides these, users groups of water (irrigation channel or tank) and forest protection were also made to maintain and levy users' charges etc. on the beneficiaries.

### Revolving fund

The concept of revolving fund has been introduced by the project, which has taken roots. The local SHGs, GAREMAs, etc. are efficiently operating and managing these funds. The role of the project team is only that of facilitator but the villagers are operating these funds themselves. This has also enhanced the participation of the local community in the project activities. The amount that has been collected in the revolving funds is of the order of Rs. 54 lakhs till July 1998 in the DVP (since 1993) and it is expected to become around Rs. 1 crore by the end of the project (Dec. 2001). This amount is built up with the help of people's contributions and their reciprocal obligation (Anon. 1998d).

A part of this fund is put in fixed deposits in banks, the balance is being used for loaning within the village to meet the petty needs of the members.

### Involvement of the local people

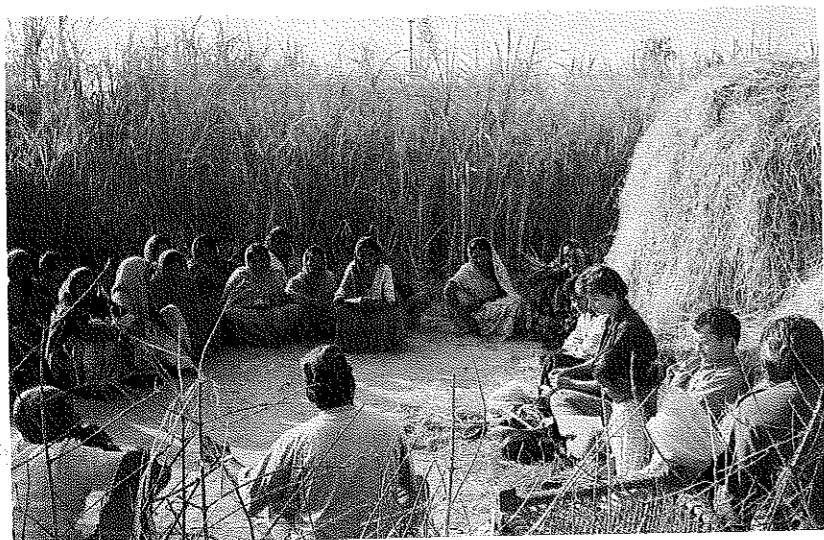
In a number of villages, villagers have come forward voluntarily to provide free labour for different field activities as a result of the efforts made by the project team towards community participation.

### Capacity building through training

Training was needed for both the project staff and the villagers. Participatory methodologies require a change in the attitudes both in the project team as well as the villagers. It also requires learning of new skills and methods related to group dynamics by the project team, which would reflect in their behavioral pattern while interacting with the villagers. The project has been able to identify the needs of training to the staff in this regard. The need for upgrading the technical skills has also been appreciated to enhance the quality of technical inputs and to improve the

delivery system. Therefore staff training can be grouped under two major sections, one covering social aspects and the second covering the technical aspects, especially for a multidisciplinary approach to the project.

Similarly, the requirement of training to villagers in general and women in particular, has also been appreciated. Training in various vocations is imparted to increase the earning capacity of the local people. Empowerment of women is an area which could bring about a sea-change in their attitude from a passive resignation to an active participation in activities, which would enhance the



quality of life in their villages. Villagers' vocational training in disciplines such as sericulture, apiculture, vermiculture, mushroom cultivation, knitting stitching, papad/bari/achar/murabba, etc. making, increased their earning capacity. They started putting "money value on time". This made them realize that apparently free items as collection of fuelwood, fodder etc. are truly costly. It encouraged them to look for alternatives.

## SUSTAINABILITY

The major weakness of projects taken up in the past has been the failure to develop a sustainable model. The Doon Valley Project has been able to initiate action in this direction and work out strategies within the project period itself.

The following efforts are being done in six directions, which may ensure sustainability of project activities.

### Institution building

The motivated and active organizations as GAREMA, women's self help groups, user groups, etc. will maintain the project activities even after withdrawal of the project itself. Their involvement right from the planning stage gives them a sense of ownership (Anon 1998c).

### Revolving fund

It will provide funds to the local people to enable them to undertake any repair or replacement of assets created by the project, e.g. repair of irrigation channels or tanks, keeping watchmen for plantations, replacing ineffective or dead bulls in Natural Breeding Centres etc. They will not have to arrange for funds to undertake these works (Anon 1998d).

### Withdrawal policy

The project at present takes up about 6 months for PRA planning in a village and then 3 years to execute various works. Thereafter, while the project is still on, the staff withdraw from active involvement in the village but support and guide the village institutions to take up responsibilities. This withdrawal phase can be 6 to 12 months, according to the maturity index of the village (Anon 1998b).

Thus training and guidance for responsibility taking will enable people to sustain the project work.

### Reciprocal obligation

The people's payments and free labour given for various project activities attaches people to the project because any deterioration will be a loss of their efforts and resources. It is their own assets which they are expected to maintain (Anon 1998a).

### Para professionals

A few local villagers are being trained in different disciplines (e.g. animal husbandry, agriculture/horticulture etc.) to advise the villagers on various problems at a token payment. These para-professionals will also act as an interface with the line departments after project withdrawal.

### Amalgamation

It is proposed to give short term training to line department staff in the last year of the project so that they may appreciate the whole project concept and process.

The contact between the line department and the people and the various institutions built by the project will be established. The GAREMA is proposed to be made a sub-committee of the "Gram Panchayat" under section 29(6) of the U.P. Panchayati Raj Act (Anon 1998c).

## CONCLUSIONS

It is hoped that the present system of working with a very active people's involvement from the very beginning will result in a sustainable watershed development model. Till now nearly all evaluation studies strengthen this notion. The long term success of these efforts will depend on the future support of the line departments to the impetus or start given by these ongoing watershed management projects which do only a short term, high intensity work in a small target area.

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