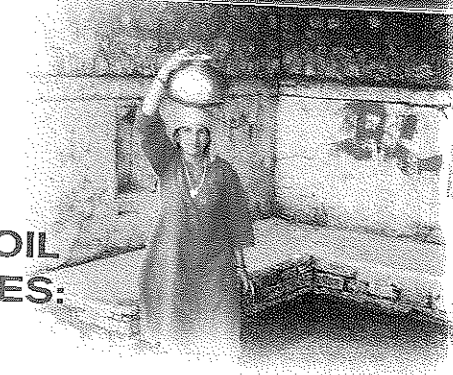


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ENLISTING PEOPLE'S PARTICIPATION IN SOIL AND WATER CONSERVATION PROGRAMMES: THE INDIAN EXPERIENCE

Katar Singh • Institute of Rural Management • Anand • Gujarat



INTRODUCTION

Unless the programme clientele, i.e., beneficiary farmers are convinced that it is in their own personal interest to protect their lands from erosion and to harvest, store and conserve rain-water and spend their energy and money in construction, repair and maintenance of necessary soil and water conservation structures, no soil and water conservation programme can succeed

India has a very long history of state support for soil and water conservation programmes (Gol, 1976; 243-247), starting from 1884 when the government for the first time took over from Zamindars ravines and degraded wastelands in the United Provinces (now in Uttar Pradesh). Till date, the central and state governments have sponsored and funded many soil and water conservation programmes, made soil conservation legislations and set up necessary administrative machinery for their planning and implementation. Like most other government-sponsored agricultural and rural development programmes, soil and water conservation programmes too have often failed to enlist people's participation and to mobilize and utilize their energies and resources. The consequences are: wastage of public funds expended on construction of soil and water conservation structures which are broken or washed away by rains every year and have to be constructed again and again. With continued degradation of lands prone to erosion and consequent declining yields of crops, there is increasing sedimentation of reservoirs and riverbeds and recurring floods and droughts. Unless the programme clientele, i.e., beneficiary farmers are convinced that it is in their own personal interest to protect their lands from erosion and to harvest, store and conserve rain-water and spend their energy and money in construction, repair and maintenance of necessary soil and water conservation structures, no soil and water conservation programme can succeed. Chandrakanth et al (1988) in a study of a watershed development project in a drought prone region of India found that the chances of a satisfactory impact of the project was higher when the farmers were truly involved in its implementation. Similarly, there are many other studies that highlight the importance of people's participation in rural development.

What is meant by participation? Why do farmers participate and not participate in soil and water conservation programmes and how could they be motivated to participate, are some of the questions that have been addressed in this paper. An attempt has been made here to throw light on these and other related questions drawing upon the experiences of a few selected soil and water conservation programmes in India.

THE CONCEPT OF PARTICIPATION

Participation means different things to different people. In common parlance, it is used to mean 'act or fact of partaking' or 'sharing in'. According to Banki (1981) participation means "a dynamic group process in which all members of a (work) group contribute, share or are influenced by the interchange of ideas and activities towards problem solving or decision making". Uphoff, Cohen and Goldsmith (1979) consider it meaningful to study participation in terms of (a) what is involved in participative behaviour; (b) who participates; (c) how participation occurs; and (d) the contexts in terms of project characteristics and task environment which influence participative conduct. In the context of this paper, I use the term to mean the act of partaking (by farmers) in all stages of soil and water conservation programmes right from designing of various structures through monitoring and evaluation of their performance. Such a participation requires among other things that the target group of farmers voluntarily spend their time, energy and money on the programme and

adopt the recommended measures and practices and repair and maintain them in good condition on a sustained basis.

There is no universally acceptable measure or index of people's participation that could be used to evaluate development programmes in terms of people's participation. One could use as a crude measure of participation proportions of the target group of people who participated in various stages of a programme and who adopted various recommended measures and practices expending their time and money on a sustained basis.

Now, I shall review and analyse the experience with a few selected soil and water conservation programmes in India, spell out lessons of those experiences, and then try to synthesize the lessons into some semblance of a theory of people's participation in rural development programmes.

The Sukhomajri experience

Sukhomajri is a well-known model of micro-watershed development in India. The model has been well-documented (Chopra et al, 1988). Sukhomajri is a small village of about 538 people, mostly Gujars, in the lower ranges of the Shivaliks in Haryana. Roughly half of the total land in the village is owned privately by individual farmers and the other half is common property land. The major portion of the catchment is owned by the Forest Department. The project was launched in 1979. It focussed on the harvesting and recycling of rain water. In Sukhomajri, an area of 4,085 ha was treated at a total cost of Rs 78.32 lakh or an average cost of Rs 1,917 per ha. About 61% of the total cost was accounted for by skilled and unskilled labour. A Water User's Society was set up in 1982 to ensure equal distribution of irrigation water and forest produce among the villagers and thereby to enlist their participation in the project. The landless also had a right to water and could sell their share to others. The right to membership of the Society and to water was contingent on the observance of stall-feeding. The project was financially viable with a benefit-cost ratio of 2.06 at the 12% discount rate and an internal rate of return of about 19% (Chopra et al, 1988). The project resulted in a significant increase in crop and milk yield rates and production, reduction in the number of buffaloes, increased availability of water, and higher incomes. Funds for implementing the project came from the Haryana State Government (Forest Department), Indian Council of Agricultural Research and the Ford Foundation. Technical guidance was provided by the staff of the Central Soil and Water Conservation Research and Training Institute, Research Centre, Chandigarh.

The Sukhomajri experience (Anonymous, 1984) shows that exhortations for participation and cooperation do not work, especially if they are aimed at people who live on the margin of subsistence. The poor cannot stop grazing their animals in highly degraded and over-grazed common pool lands for the sake of their conservation when their lives depend on the animals. Only with increased productivity of crops and increased milk yields resulting from supplemental irrigation made possible by the reservoirs constructed under the project and assurance of equal share of every village household in the reservoir water were the villagers ready to invest in soil and water conservation measures and to participate in the programme whole-heartedly.

The Ralegan Siddhi experience

Like Sukhomajri, Ralegan Siddhi is another well-known and well-documented model of micro-watershed development in India (Patil, 1988). Ralegan Siddhi is a village of about 2100 people in the drought-prone Parnal Tehsil of Ahmednagar district of Maharashtra. The village receives scanty rainfall of only 250-300 mm annually. Hence, the highest priority in the project was given to water conservation. The Ralegan Siddhi project covered four watersheds and a total geographical area of about 892

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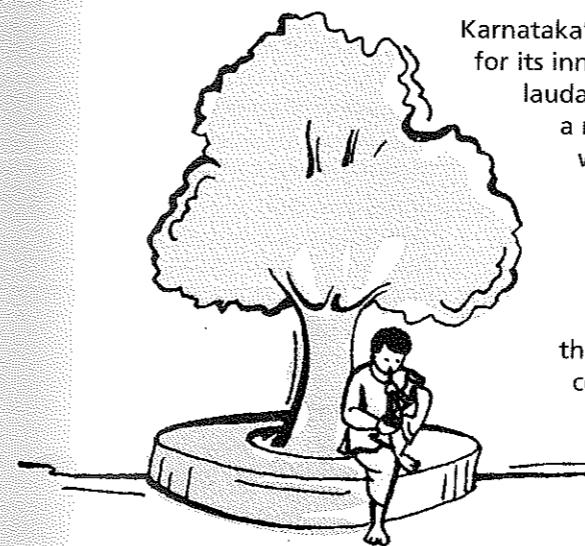
ha. The total expenditure incurred on the project was Rs 112.75 lakh of which Rs 52.75 lakh was granted by the Maharashtra State Government, Rs 47 lakh borrowed from banks, Rs 11 lakh contributed by villagers through Shramdan (donation of labour) and the remaining Rs 2 lakh contributed by other sources (Patil, 1988). The per ha cost of the project was Rs 11482 which included cost of a hostel building (Rs 16 lakhs) and a veterinary hospital. The project had a significant positive impact on crop and milk yield rates and production, fodder production, employment, and incomes. It has been observed that after the implementation of the project, no villagers go out of the village in search of work as they used to do before the project.

A series of check dams and bunds constructed under the project has resulted in increased availability of ground water. This has facilitated sinking of community wells. Water from these wells supplied at a moderate rate has enabled the farmers to grow two or three crops every year including fruits and vegetables which are now even exported to Dubai. The villagers have participated whole-heartedly in the project and have contributed through Shramdan (donation of labour) valued at Rs 11 lakh. All the soil and water conservation structures were built through community action. The villagers have completely stopped grazing their animals on common property lands and have switched to stall-feeding which has become possible as a result of increased grass production from the common property land after a ban on grazing. They have planted more than two lakh trees mostly on common property lands including hill slopes. This has prevented soil erosion besides providing a variety of products such as fuelwood, fodder, fruits, etc. The major force behind this transformation has been Padma Shri Anna Hazare who after retirement from the Indian Army in 1975 returned to his native village-Ralegan Siddhi and started the village reconstruction and development work. To enlist people's participation in this work, he organised the villagers into an association called Tarun Mandal (Youth Association). For ensuring equitable distribution of water, Pani Puravatha Mandals (Water Supply Associations) were established.

The Ralegan Siddhi experience shows that the rural people under the guidance and leadership of good, enlightened and honest persons could achieve a lot through their own resources. The model could be replicated in other villages in India given proper leadership. Anna Hazare is now trying to institutionalise the model by training rural youth who have volunteered to follow in his footsteps.

The PIDOW project experience

Karnataka's District Watershed Development Programme (DWDP) is well known for its innovative three-tier organisational structure, state-wide coverage and laudable achievements. However, inadequate people's participation has been a major weakness of the programme (Singh, 1988). To remove this weakness and to develop practicable and replicable methods for enlisting people's participation, the Government of Karnataka (GoK) in collaboration with MYRADA (Mysore Resettlement and Development Agency), a non-governmental organisation and the Swiss Development Co-operation (SDC) has launched a project - Participative and Integrated Development of Watersheds (PIDOW) in the Gulbarga district. The project has been managed successfully and a concept for community action/participation focussing on watershed management has been developed, applied and tested for replicability. The project staff has successfully organised people in seven selected mini-watersheds in the project area into small homogeneous groups/associations and all the project activities are planned, executed, monitored and followed-up by these associations. The association works in close collaboration with



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local institutions like Mandal Panchayats, co-operative societies etc. Every member of each of the associations voluntarily and regularly saves some money every month and pools the savings in a common fund of the association out of which loans are granted to the needy members of the association. Each association has framed its own rules and regulations for utilizing its common fund and the resources of its mini-watershed. Each association meets regularly—two to three times every month to review the progress of its activities, identify problems and bottlenecks in implementation and determine what remedial actions will be taken by whom and when. This procedure is quite similar to the one used in the HASD project in Northern Thailand where a seven-step problem-solving procedure was used to involve the watershed community in the decision making process (Hoare, 1986). The villagers are trained by the project staff and technical experts from outside in construction of various soil and water conservation structures so as to eventually do away with the contractors who presently do the project work for the GoK and take away a sizeable chunk of the funds earmarked for the project. By the end of 1989, 70% of the soil and water conservation structures established in the seven mini watersheds taken up under the project had been repaired and maintained in good condition by the people themselves and 70% of the farmers had accepted the recommended measures and practices (SDC, undated).

The PIDOW project experience shows that a non-governmental organisation could do a better job of enlisting people's participation in soil and water conservation programme than a government agency. As a first step in the process of enlisting their participation, the project staff organised the people into small homogeneous groups/associations around income generating activities, motivated them to save and use the savings for productive purposes. Finally, they motivated and trained the people to design, construct, repair and maintain various soil and water conservation structures on their own private lands as well as on the common property lands.

The AKRSP (I) experience

The experience of the Aga Khan Rural Support Programme (India) [AKRSP(I)], a non-governmental organisation based in Ahmedabad, Gujarat, and engaged in rural development work with their soil and water conservation programme in three districts of Gujarat namely, Junagadh, Surendranagar and Bharuch, shows that farmers participate in soil and water conservation programmes when the expected benefits from participation are higher than the expected costs of participation and when the role of an external agency is confined, as it was in the case of AKRSP(I), to organising and helping them identify their problems, and determine their priorities and empowering them to resolve the problems identified. This approach to rural development is translated by the AKRSP(I) into concrete action by organising people into viable and self-sustaining organisations at the grass-roots level that enable people to build up a capacity to identify and solve their problems and to have access to resources and services available from various governmental and non-governmental agencies engaged in rural development. AKRSP(I)'s soil and water conservation programme was initiated in early 1988. By December 1989, the programme had been taken up in 21 villages with 302 farmers in the three districts and 454 ha of land belonging mostly to poor and small farmers had been treated [AKRSP(I)] Brochure, 1989].

In the AKRSP(I)'s soil and water conservation programmes, the major actors are Extension Volunteers (EVs) and the participating farmers. The EVs are selected by the farmers from amongst themselves. They are trained by the AKRSP(I) and after training they do most of the work including contacting, educating, training, motivating, and helping the farmers. They survey the farmers' fields and prepare maps and layouts of various conservation structures. They are paid for their

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services by the beneficiaries at the rate of Rs 10 per acre of land treated and an equal amount is paid by the AKRSP(I). This system of service-linked payment by the beneficiaries may well be called an innovation. There is a built-in incentive in the system for the EVs to provide the maximum possible service to their clientele, i.e., farmers. Besides, there are many other advantages of the AKRSP(I)'s approach. It is people-centred, flexible, and decentralised vis-à-vis the conventional approach which is paternalistic, rigid, and centralised. Unlike Government personnel, EVs are easily accessible to farmers as they come from the farmers' village/area and they are accountable to farmers. The AKRSP(I)'s approach is the most cost-effective. The average cost of land treatment over the period January, 1988 to December, 1989 was Rs 150 per ha which was the lowest achieved till then under any soil and water conservation programme in India and incremental net returns due to the programme in 1988 were Rs 219 per ha [AKRSP(I)], 1989]. A major strength of the approach is that all the field level activities are handled by the EVs with a minimal involvement of the AKRSP(I) staff. The AKRSP(I) staff involved in the programme at each of the three district centres consists of one subject matter specialist designated as Programme Organiser (Watershed Development) and one Surveyor.

Another important feature of the AKRSP(I)'s approach is that each participating farmer contributes in the form of labour 50% of the total labour cost of the works done on his land; the remaining 50% is contributed by the AKRSP(I). Cost of equipment and instruments is wholly met by the AKRSP(I).

Each participating farmer is motivated to save some money (15 to 20%) out of the wages paid to him by AKRSP(I) (50% of total cost). These savings of all the participants are pooled by the Gram Vikas Mandali (GVM) or some other association of the farmers promoted by the AKRSP(I) and used as a collateral for securing bank loans to the members of the Mandali for purchase of improved seeds, fertilizers and other inputs.

Each EV prepares, every year before the monsoon sets in, a simple one-page operational plan for each participating farmer in his village/area. The plan contains such details as the kind of conservation structures to be constructed, quantum of work to be done (area to be covered), rate of payment, amount payable to the farmer, total savings to be made by the farmer, service fee payable to the EV, kind and quantity of inputs needed, etc. The plan is required to be signed by the EV and the farmer, and scrutinized by a supervisory staff of the AKRSP(I). The plan document also serves as a voucher for the farmer to claim payment of the AKRSP(I)'s contribution. The payment is made to the farmer only after the quantity and quality of the works done in his field(s) are verified by the Chairman, the Secretary, and two of the members of the GVM concerned. While making payments to the farmer, the AKRSP(I) deducts from the total amount payable the amount that the farmer has agreed to save and the service fee payable to the EV. The EV could later claim from the AKRSP(I) the service fee due to him. There are no middlemen and contractors in the programme and hence no leakages of funds which is a very common feature of governmental soil and water conservation programmes in India.

A weakness of the AKRSP(I)'s approach is that it does not provide for treatment of degraded common property lands as a result of which farmers are deprived of the positive side effects of treatment of public lands in their watershed. Since in most watersheds, common property lands occupy most of their upper reaches and hence contribute a major share of total runoff and soil loss, their protection through appropriate treatments is necessary to harvest runoff, prevent gully formation in private lands in the lower reaches of the watershed and to augment availability of ground water through percolation. The AKRSP(I) staff are aware of this lacuna but

do not know how to take care of common property lands in their watersheds given indifferent attitude and diagonally opposite approaches of the concerned government agencies.

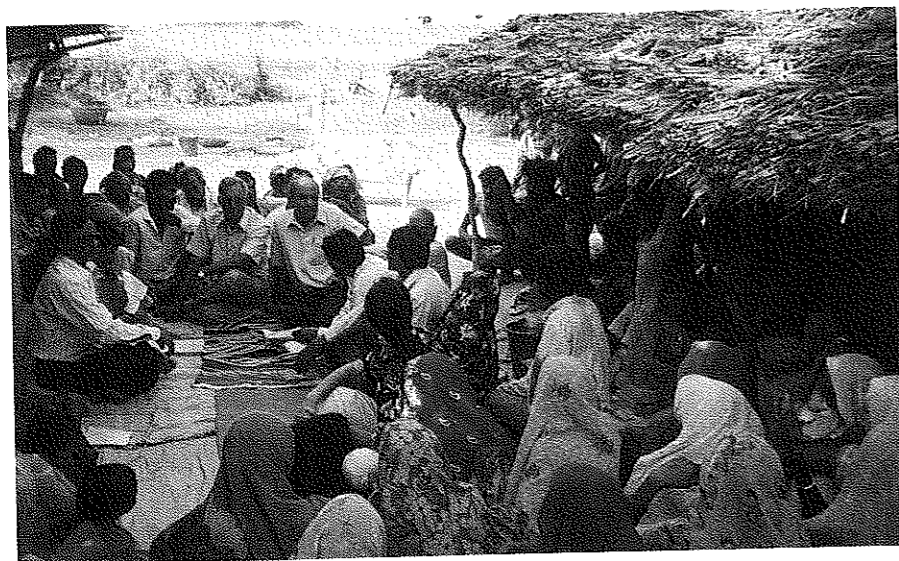
On the whole, the AKRSP(I)'s approach has been most successful in India so far in enlisting people's participation in soil and water conservation programmes. It is easily replicable wherever there is willingness and patience to develop local human resources and allow them to share both the responsibilities and the resources.

TOWARDS A THEORY OF PEOPLE'S PARTICIPATION

As I have defined in this paper, participation in fact implies adoption of recommended soil and water conservation measures and practices on a sustained basis and partaking in all other activities such as meetings, visits, training courses etc., related to the programme. We know from a simplistic version of the theory of decision making under risk and uncertainty that a rational producer (farmer) would undertake an activity if the expected returns from it markedly exceed its expected costs and the optimum level of adoption is attained when expected marginal returns from adoption are equal to expected marginal costs of adoption. There are many factors that affect expected returns and costs such as expected yields, expected prices, risk aversion, certainty or lack of it about availability of inputs, assurance or lack of it that the expected returns will in fact accrue to the producer, etc. Since these factors vary from individual to individual, extent of adoption also varies from farmer to farmer. A logical conclusion of this theory is that anything that increases expected returns or reduces expected costs will increase participation.

A theory of participative behaviour (the theory of margin) which is very different from the above-mentioned theory has been propounded by McClusky (1970:25-32). McClusky defines margin as a "function of the relationship of load to the power". Load is defined as the "self and social demands by a person to maintain a minimum level of autonomy" and power is described as "resources such as abilities, possessions, position, allies, etc. which a person can command in coping with the load". From this characterisation of load and power, Lupanga (1988) derives a hypothesis to explain the lack of people's participation in development activities in the Third World. The hypothesis is that the majority of rural people in

most of the Third World have a heavy load and little power to cope therewith and hence they are too preoccupied with mere survival to participate meaningfully in development activities. In other words, the higher the margin between load and power, the lesser the participation in development activities. If the hypothesis is true, a logical conclusion is that efforts to mobilise such marginal masses to participate in development activities must, of necessity, include reduction of load or the raising of their power or both.



Although the above mentioned hypothesis could explain lack of people's participation in development activities, it cannot explain why the same people who do not participate in some development activities participate in some other development activities. There are many instances of poor people in developing countries adopting some technologies or not participating in some programmes and rejecting some other technologies or participating in some other programmes. So, there must be some technology-specific or programme specific factors that affect people's participation. In my opinion, these factors are none other than expected returns and expected costs, project characteristics and task environment.

In my opinion, the theory of decision making under risk and uncertainty can adequately explain why the farmers participate in some programmes and do not participate in some other programmes. In Sukhomajri, the farmers did not participate initially because there was a lot of uncertainty about the quantum of returns and there was no assurance that the promised returns would in fact accrue to them and the expected costs in terms of benefits that were to be foregone by not grazing their animals in common property lands were high. Afterwards, when a Water Users' Society was established in the village and equal distribution of reservoir water was assured by the Society, and when they themselves saw that crop yields and milk yields had increased markedly, they came forward and participated in the project. The project interventions helped in increasing the expected returns and reducing the expected costs. Similarly, in all the other cases reviewed and analysed in this paper, the project interventions were aimed at either enhancing the expected returns or reducing the expected costs or both, directly and/or indirectly.

CONCLUSIONS

It is now widely accepted by both academicians and practitioners all over the world that people's participation is essential for the success of soil and water conservation programmes and that governmental agencies are not properly geared and oriented to enlist people's participation. How to enlist people's participation remains one of the most baffling problems presently confronting planners and managers of soil and water conservation programmes all over the world.

The Indian experience reviewed and analysed in this paper shows that the most important pre-requisite for people's participation is that the expected benefits from participation must substantially exceed the expected costs of participation. Programme interventions or measures that seek to enhance the expected benefits to people or reduce the expected costs are likely to elicit more of people's participation than those that do not seek to do so. Non-governmental organisations are better oriented to enlist people's participation and have necessary skills and patience to work with people, to motivate them and to train them and thereby to empower them so they could identify their problems and resolve them on their own eventually. It is high time that the governmental organisations engaged in soil and water conservation programmes learnt from the experience of the non-governmental organisations and incorporate the lessons into their strategies. Otherwise, huge amounts of scarce resources would continue to be wasted on ill-conceived, ill-designed and badly executed soil and water conservation programmes as before.

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NGO-GO INTERACTIONS IN WATERSHED DEVELOPMENT: EXPERIENCES FROM GUJARAT

Amita Shah • Associate Professor • Gujarat Institute of Development Research • Ahmedabad • Gujarat

INTRODUCTION

Officially, non-governmental organizations (NGOs) in India are expected to play a supportive role to governmental organizations (GOs), preferably by sponsoring the evolution of local organisations which can eventually both plan and implement developmental programmes at the micro-level.¹ However, experience has by and large shown that NGOs tend to work more as independent implementors than as catalysts for bridging the gap between local people and the state. This makes it difficult for GOs to assign specific responsibilities to NGOs within a planning framework, especially in the light of their 'voluntary' nature and diverse characteristics. Nevertheless, the potential value of NGOs to the mainstream of development planning is such that attempts should be made to foster greater partnership between NGOs and GOs. The emerging concept and practice of 'joint forest management' provide an indication that it may be possible to develop a replicable model for sharing work between NGOs and GOs.² Not only have such approaches helped check indiscriminate felling of trees by foresters and local people, but they have also reinstated people's long-term stake in forest resources which were otherwise being fast depleted.

Under the NGO-GO collaborative model the idea is that the relative strengths of the two partners complement each other, helping to ensure effective project implementation on a wider scale.³ Instead of trying to manage all activities by themselves, thereby creating ideal but isolated models, NGOs should share specific responsibilities with GOs. This should be particularly beneficial in those areas where it is difficult to foster local participation. Similarly, instead of rushing to fulfil planning targets, GOs should focus on exploring alternative approaches which can cater to people's location specific needs. Such an approach implies alteration in the work culture of both GOs and NGOs. Ultimately the success of the collaborative efforts will depend upon three important factors relating to the nature of work-sharing arrangements between NGOs and GOs.

- **Division of responsibilities between NGOs and GOs** these should be in consonance with the relative strengths and weaknesses of the organisations and should be planned in a spirit of complementarity rather than competitiveness.
- **Extent and nature of NGO involvement** NGOs should be involved in the decision-making process rather than merely in implementation.
- **Dynamics of collaboration** emphasis should be placed on a continuously evolving process rather than a fixed formula for collaboration.

NGO-GO collaboration is still at an early stage in the field of agriculture. Much needs to be learnt about how the conditions for success outlined earlier can best be pursued under the various government-supported schemes. The experiences from joint forest management are useful but their direct applicability for other projects such as watershed development, may be somewhat limited because of the difference in the range and nature of activities involved in these two types of projects. There is also a difference in scale; ideally watershed projects should be implemented in a large part of the dryland regions which constitute nearly 70% of the cultivated land

in India. This paper highlights the experiences of a specific variant of GO-NGO collaboration in two micro-watershed projects in Gujarat.⁴

OBJECTIVES

The analysis will focus on:

- Ascertaining whether and to what extent the three important dimensions of NGO-GO interactions are present in the work-sharing arrangements between the two.
- Examining NGO strategy and performance.
- Identifying major constraints in NGO-GO collaboration and possible ways of improving effectiveness.

The next section outlines some of the important features of the watershed projects and the work-sharing arrangements between the GOs and the NGOs. The subsequent section documents the actual experiences of NGO-GO interaction during the first two years of project implementation. This is followed by a discussion of some of the policy issues.

PROJECT PROFILES AND NGO-GO COLLABORATION

Gujarat State Land Development Corporation (GLDC), an autonomous body created by the Government of Gujarat, has undertaken four integrated watershed development projects in the semi-arid regions of Gujarat. The project seeks to introduce better land management practices by developing cost-effective technologies for soil and water conservation, improving ground cover and encouraging the type of land use which responds to people's needs while at the same time being in harmony with the capacity of the land itself. The total catchment area is 80,000 ha, of which three-quarters is under private ownership. Among the four watersheds, collaborative arrangements between NGOs and the GLDC are being experimented within two: at Vatrak (Sabarkantha) and Narmada (Vadodara-Bharuch). These sites represent both adverse agro-climatic conditions and a complex social structure, especially in Vatrak.

These projects represent a major departure from GLDC's past experiences, not only because of the integrated approach (involving comprehensive planning for sustainable growth of food, fodder and fuel) but also because they move away from the GLDC's earlier emphasis on engineering works such as land-levelling, earth-bunding and the construction of water-harvesting structures.⁵ Three important aspects of the present projects are:

- The emphasis on low-cost vegetative treatments which have a slow impact on yield as compared to conventional earthworks.
- The emphasis on community land and water resources as strategic components for ensuring sustainable development
- The emphasis on collaboration with NGOs in order to mobilise local participation which might otherwise be difficult because of the non-conventional approach of the project.

All three aspects were introduced by the funding agency.⁶ However, it took some time before GLDC was able to completely internalise these changes in its work culture. Consequently, the initial pace of implementation was sluggish and collaborative arrangements with NGOs were ill-defined at the outset.

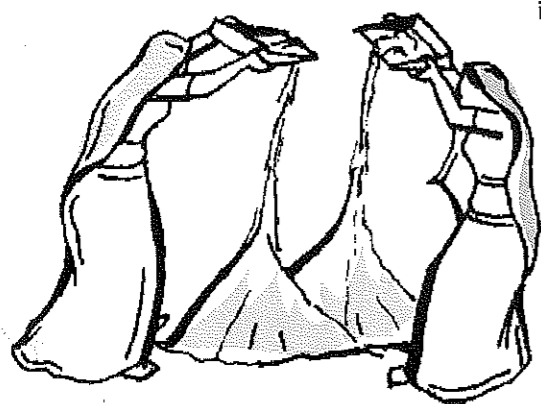
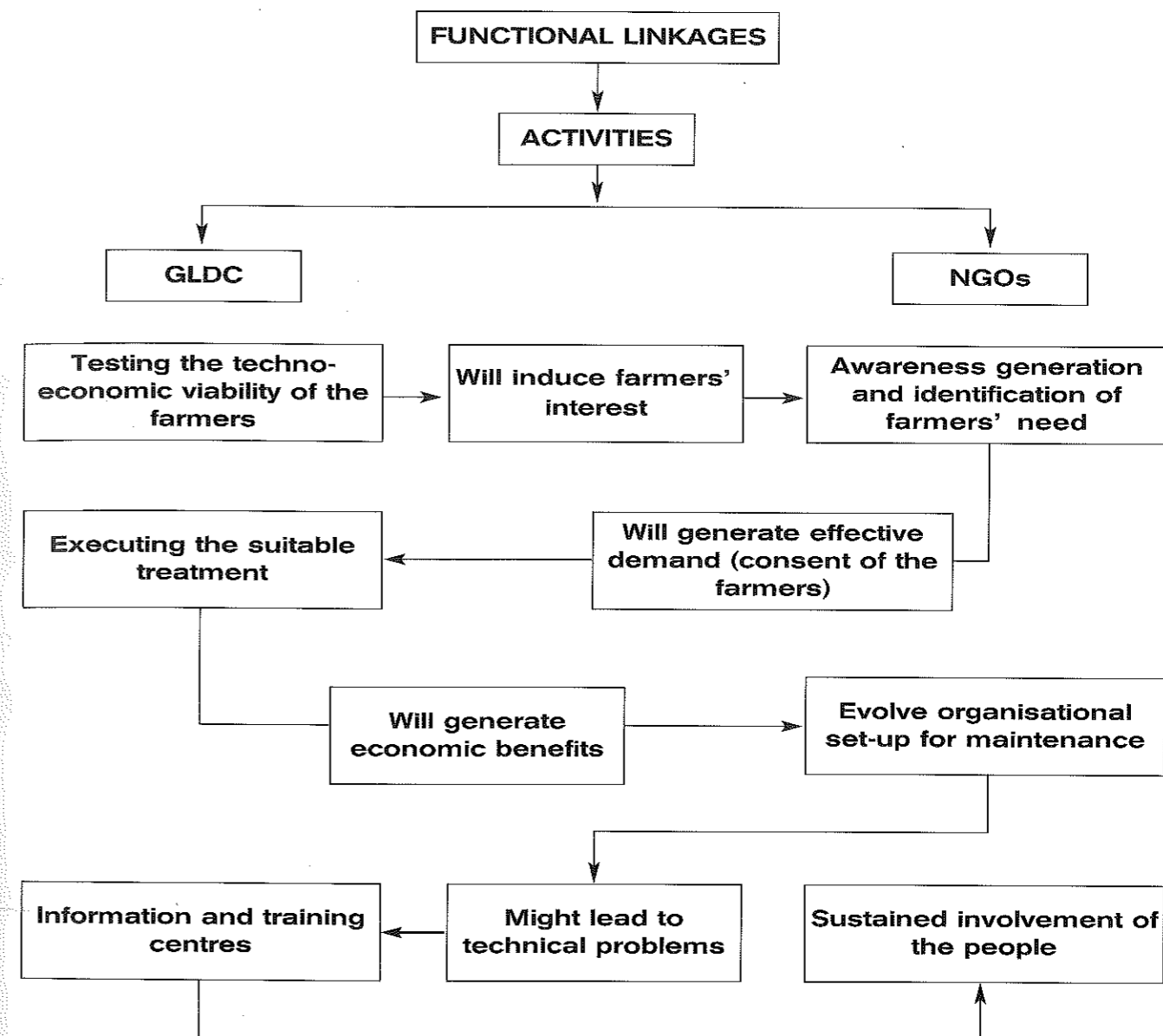


Figure 1:



Work-sharing arrangements between NGOs and GOs

While the primary responsibility for project execution rests with the GLDC, NGOs are expected to play a catalytic role in generating demand for project activities. To accomplish this, the NGO activities involve: information dissemination; supporting the evolution of local organisations and liaison with other developmental schemes (for example dairying, agro-processing and rural infrastructure) linked with the watershed projects. The GLDC's role is to ensure timely execution by securing money, material and manpower, its main responsibilities being: preparing technical plans; execution of the prescribed treatments and overall monitoring of the project activities.

Although there is some demarcation of work between the GO and NGOs it was recognised at the outset that the two agencies would have to work interactively

While the primary responsibility for project execution rests with the GLDC, NGOs are expected to play a catalytic role in generating demand for project activities. To accomplish this, the NGO activities involve: information dissemination; supporting the evolution of local organisations and liaison with other developmental schemes (for example dairying, agro-processing and rural infrastructure) linked with the watershed projects

rather than in isolation. In order to facilitate NGO involvement, financial support was provided to them from the project funds. They are accountable for their expenditures to the GLDC. In turn GLDC is accountable to the funding agency which has an important say at all stages of project implementation, including NGO intervention.

Although the actual mechanisms for collaboration were not explicitly defined at first, it was assumed that the activities of both sides would follow a particular interactive sequence. For instance, the first step was for the GLDC to establish the techno-economic superiority of the recommended technology through on-farm research under varying soil-crop conditions. Such proven superiority is a necessary condition for adoption of the technology. It must, however, be complemented by farmers' consent and active participation. The idea was to ensure this through the intervention of various NGOs. This done, the GLDC's role was effectively to execute the prescribed treatment, while NGOs would take responsibility for follow-up. Broadly, the interactive process was visualised as shown in Fig 1.

Although there is a fair amount of agreement about project objectives, the collaborative arrangements between the partners do not fully comply with the three factors for success mentioned earlier. While they satisfy the condition of complementarity reasonably well, the other two conditions, namely NGOs involvement as a joint decision-maker and flexibility in the work-sharing arrangement, are largely missing. For instance, the treatment plans are generally worked out by the GLDC staff alone and the NGOs have only a limited say in deciding upon technical specifications in the light of farmers' needs. Furthermore, NGOs have to give specific details of their field activities prior to their involvement in the project villages; any modification of the proposed work plan requires formal approval by the GLDC which invariably takes some time. This reduces the amount of both time and financial resources that NGOs have available to initiate interventions which were not visualised early on but were subsequently found to be useful in facilitating interaction with village communities. Overall, it appears that the NGO-GO collaboration is weighted in favour of the GO which eventually controls the two crucial aspects of the project, namely technology and finance. It provides very little of the flexibility which is essential for mobilising people's participation in the project.

The following analysis describes the actual experiences of NGO-GO interaction during the initial two years of implementation.

NGO - GO INTERVENTION: THE PROCESS

Three NGOs were involved in the two pilot watersheds, two in Vatrak and one in Narmada. While the basic objectives were the same for all three NGOs, their operational strategies were significantly different. For instance, the main thrust of one of the Vatrak NGOs approach was to raise people's awareness of their rights in the developmental process and thereby stimulate demand for the project as a right rather than as charity or a subsidy from Government. Its initial strategy was, therefore, to focus on explaining the nature and causes of unequal development and the rights of farmers.

The other Vatrak NGO placed emphasis on gender-related issues, especially on the opportunities for improving the economic status of women by providing employment under the project. The strategy was to use this as an incentive for the formation of women's groups which could take advantage of wage employment opportunities and, later, take on the responsibility of managing community land. It was envisaged that because of the potential increases in availability of fodder and fuel that the project presented, women's demand for watershed development would be significant.



The NGO operating in Narmada had significant expertise in extension education. This meant that it laid special emphasis on individual counseling and developing close contacts with farmers in order to improve dryland farming practices. This approach was particularly appropriate in Narmada because: (a) the area is inhabited predominantly by tribal people engaged in subsistence farming with little use of modern technology, which necessitates intensive one to one counselling; and (b) higher rainfall in the region offers better scope for farm forestry which has to be promoted individually on farmers' private lands (rather than collectively on community land).

These differences in approach may affect the extent of local

participation but it is not yet possible to draw conclusions about this. Nevertheless, what is important here is to highlight the fact that there was ample scope for the NGOs to collaborate with the GLDC without having to compromise their basic approaches to development.

The initial setting

Although NGO involvement in the project's implementation was envisaged from the very beginning, there was a time-lag of about a year before collaboration was actively sought. By this time it was already apparent that the response of local people was fairly lukewarm, mainly because of the GLDC's top-down approach.⁷ Apart from difficulties in demonstrating tangible benefits of the project in the short-term, there were other drawbacks to the initial interventions by the GLDC.

The drawbacks included

- Limited opportunities to alter the project design to incorporate local concerns about earthworks, manuring, survival irrigation and drinking water facilities.
- The absence of a phased-out programme for treating only a part of the community wasteland leaving the rest for grazing. This would have helped sustain livestock production in the short run and increase the availability of fodder from the treated lands in the long run.
- Heavy dependence on outside contract labourers, available at relatively lower and wages
- Failure of some of the interventions of the project (e.g. non-survival of vegetative barriers and forestry/horticulture plantations due to late and improper methods of planting, lack of other treatments such as earthwork, nutrient application pest control and free grazing).

Consequently, there was a mismatch between what people were demanding and what appeared to be a likely outcome of the project. The challenge for the NGOs was to bridge this gap. Not being present during the planning process was certainly

a major handicap for them. However, they were eventually helped in overcoming it by certain modifications which were made by the the GLDC in the original treatment plans. This helped to demonstrate that there was at least some room for making location specific changes, long as the GLDC (and also the funding agency) found them to be technically sound and without major implications in terms of altering project finances. Important among these changes were:

- Increased flexibility in designing the key lines: for small plots (about 1 acre or less) bunding could be done only on the field boundaries rather than on actual contours.
- Local grass species were permitted as an alternative to khus (vetiver) which was prescribed in the original design.
- Farmers' choice of species for farm forestry or dryland horticulture were accommodated to a large extent.
- Locations for loose rock-barriers were also modified in a few cases in response to suggestions from local people.

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Although these changes did not alter the basic technology, they did help NGOs to mobilise local demand during the initial phase. The major tasks at this stage were:

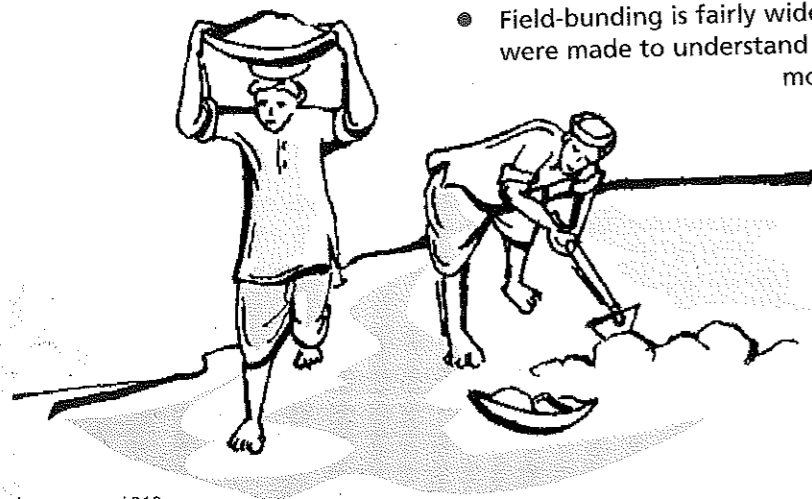
- To prepare a list of farmers who were willing to adopt vegetative barriers and horticulture/farm forestry plantation on the arable land.
- To prepare farmers for undertaking or at least supervising planting operations on their own fields and subsequently provide protection to the plants.
- To develop local skills for grafting existing plants.
- To motivate people to participate in creating physical structures for stabilisation of drainage lines.
- To form groups of villages for development and/or maintenance of community wastelands. These tasks were executed through individual contact with farmers, village meetings, exposure tours and training workshops.

Early interactions with villagers

Some of the important features of this initial process of interaction with the village community are highlighted as follows:

- Efforts were made to understand people's perceptions on the issue of soil degradation – its causes and effects. It was observed that soil degradation was recognised to be a problem by almost all farmers but that its impact on declining yields was not clearly appreciated. This may have been due to the influence of seed and fertiliser technology on yields which can overshadow the positive impact of soil-moisture conservation in the short run.
- Field-bunding is fairly widespread, at least on boundaries, in this region. Efforts were made to understand this and other traditional practices for conserving soil-moisture. It was observed that people were already aware of the vegetative measures for field-bunding.

However, they were apprehensive about the effectiveness of such measures in erosion control, especially under conditions of heavy rainfall. They had a strong preference for earth-bunding, land levelling and water harvesting measures. These are more expensive measures which means that farmers often cannot adopt them without assistance. Therefore, attempting to explain the superiority of vegetative measures and to change



farmers' attitudes towards the prescribed treatment plans were some of the main activities for NGOs during this motivational phase.

- Convincing people to contribute to the development of community land was one of the most difficult tasks. Making the shift from free access to grazing land to limited access and stall feeding of livestock often creates uncertainty, especially amongst those with great stakes in livestock production. People's apprehensions were more about losing their 'rights' on the common land than about reduced availability of fodder. Their consent could be obtained only if the NGOs had local credibility and a proven record of initiating developmental activities in or around project villages. All three NGOs were quite new to the project area and so this process had to wait for at least a year until they had built up a reputation.
- Linking the issue of drinking water to project activities turned out to be very important. Surprisingly, this had not been properly visualised in the original design. Nevertheless, the NGOs made a special effort to tap the potential sources of drinking water, drawing on funds from other sectors of the government. This initiative helped the NGOs significantly in establishing their credibility in the project villages.
- Finally, since the GLDC had already started implementing the project in certain villages, the NGOs had to reverse certain non-participatory elements of the earlier process. To convince farmers that the project had really changed, without discrediting the GLDC's earlier efforts and thereby undermining the project's collaborative spirit, was not easy. It involved not only changing people's perceptions of the GLDC's approach but instilling the idea of flexibility among the field functionaries of the GLDC itself. This was achieved through the joint organisation by the NGOs and the GLDC officials of a large number of village meetings.⁸

The impact

The degree of local participation in the project has been influenced by factors relating to both the economic returns from the prescribed technology and the willingness of people to engage in collective action, in addition to the quality of the NGOs' own interventions. Since the NGOs had very limited influence on the first of these factors (especially because of their late entry), the initial process of their intervention was quite difficult. This meant that positive results were slow to materialise. Table 1 summarizes the early results.

While there are methodological problems associated with isolating the NGO contribution (particularly in qualitative terms) from that of the GLDC's efforts, a crude way of ascertaining their quantitative impact could be to compare actual achievements across the two sets of watersheds, i.e. those with and those without NGO involvement. Table 2 presents details of the physical achievements in Vatrak and Narmada (with NGOs) and Macchu and Bhadar (without NGOs). As long as efficiency of the GLDC staff does not differ markedly amongst the four watersheds, the differences in physical activities should partly reflect the contribution made by the NGOs.

Positive aspects of NGO intervention relate directly to the impact of the project. They include the following:

- The NGOs appear to have supported the GLDC staff by convincing farmers to adopt the prescribed treatments on their private lands. Often meetings were organised jointly by the two agencies to discuss the project-related problems with village communities.
- The NGOs have established fairly good contacts with various sections of village communities which have helped by making constructive suggestions about the

Table 1: NGOs' performance and major constraints in project implementation

Activities	Present Status	Major Constraints
1a. Organising field programmes	Several group meetings organized in almost every village; exposure tours to GLDC's training centres; personal contacts established with a large number of households.	<ul style="list-style-type: none"> ● Village meetings without specific agenda become repetitive and are often counter-productive. ● Exposure tours to successful watershed projects could be more frequent, but additional resources are needed. ● Field demonstrations are not part of the NGOs' activities
1b. Generating farmer's awareness and willingness to adopt	A large number of farmers have given consent for vegetative barriers and farm forestry on their arable land. Lists have been submitted to the GLDC.	<ul style="list-style-type: none"> ● The planning was already done by the GLDC mismatch between need and planning. ● Farmers' consent might have been partly due to the incentive of a seed-fertiliser kit, and does not necessarily reflect commitment to maintenance in the future. ● No effective demonstrations.
1c. Forming village organisations	The on-going process of forming the village organisations has been activated or defunct cooperatives have been revived.	<ul style="list-style-type: none"> ● In many places community land is not acquired. ● The potential benefits are not clear.
1d. Establishing links with other development programmes	Efforts are being made to link up with schemes like social forestry and 'Development of Women and Children in Rural Areas'.	<ul style="list-style-type: none"> ● Because of late entry, the NGOs are not fully acquainted with local people and dynamics.
2. Establishing effective organisational structures	Jobs of the project coordinators are well specified. They operate through the field functionaries and have a fairly good system of reporting.	<ul style="list-style-type: none"> ● The functionaries who work as the interface with local people are often either outsiders or lack technical understanding and leadership.
3. Operationalising interface with the GLDC	Visits to the GLDC officials are quite frequent: possible to get required information or records; the GLDC staff are invited to village meetings; day-to-day problems are discussed.	<ul style="list-style-type: none"> ● Reluctance of the GLDC staff to cooperate because of lack of conviction about need for NGO involvement. ● Administrative rigidities, absence of any kind of autonomy within the NGO to provide crucial support for animal husbandry, horticulture, input-supply etc. which may help in convincing the farmers.

project-design. In turn, these suggestions were communicated to the GLDC staff. At times this has led to important modifications.

- The NGOs have exerted positive checks on the way the GLDC functions by creating pressures to fulfil promises made to local people.

Table 2 shows that as far as treatments on arable (private) land are concerned the project achievements do not vary significantly according to whether NGOs have been involved; the project seems to have been broadly successful in achieving its targets. However, a noticeable difference can be observed in the case of the two treatments (silvipasture and gully plugging) which are executed on community lands and therefore require collective decision-making and action. In Vatrak and Narmada watersheds where NGOs have been operating, the results are significantly better. This is a crude method of comparison; the extent to which the greater success is due to NGO involvement as opposed to external factors (such as acquisition of community land by the GLDC or conducive agroclimatic conditions) remains unclear. On the other hand, it would be erroneous to infer that NGO contribution to the implementation process was negligible. For, more than the physical achievements, NGO contribution might have been crucial in terms of the two important qualitative aspects: matching the project-design with the needs of local people and improving the GLDC's functioning by questioning certain procedures and creating pressure groups.

Table 2: Summary of the project's physical achievements across watersheds, 1993-94

Name of the Watershed	Nature of Treatments							
	VB ^a		FF ^b		Silvipasture		Loose Rock Check Dam (No)	
	T	A(%)*	T	A(%)	T	A(%)	T	A(%)
Vatrak**	1679	1232 (73)	82	219 (267)	116	304 (262)	2500	2889 (115)
Narmada**	1657	655 (40)	53	512 (966)	264	44 (17)	1500	1573 (105)
Total	3336	1887 (56)	135	779 (577)	380	348 (92)	4000	4462 (111)
Bhadar**	2000	1195 (60)	55	786 (1429)	132	31 (23)	2000	529 (56)
Macchu**	2283	1323 (58)	86	328 (381)	132	39 (29)	2000	2183 (109)
Total	4283	2518 (59)	141	1114 (790)	262	70 (27)	4000	2712 (68)

* Percentage of the targets

** watersheds without NGOs intervention

a. Vegetative barriers

b. Farm forestry

T. Targets

A. Achievements

However, NGO involvement has not been an unqualified success:

- In the absence of adequate scope for modifying the treatment plans, the role of the NGOs has been largely reduced to promoting plantations. This has constrained the NGOs' effectiveness in promoting comprehension of the idea of integrated watershed-based agricultural development.

- Being relatively new to the project area, the NGOs were not able to build on past successes to help them establish a good rapport with village communities and thereby influence collective decision-making.
- The attitude of the GLDC's field staff has continued to be problematic. A feeling of 'unhealthy competition' or 'Unwelcome Intervention' on the part of NGOs still prevails among the GLDC staff.
- A direct link between agronomic practices and soil-moisture conservation treatments is yet to be established. Little has been done in terms of location specific demonstrations which may be crucial for convincing farmers of the project's approach. If this does not change in a reasonably short time, it is likely that the present process of implementation will reduce the credibility of both the agencies involved and hence their likelihood of success in the future.
- The lack of farmers' own involvement in undertaking treatments means that though some have adopted or indicated their willingness to adopt, application cannot be considered to be necessarily demand-based.
- Obtaining community land involves getting clearance from forest/revenue departments of the state Government. The GLDC has to intervene in this process. However, the GLDC's efforts were not coordinated with the NGOs, efforts to support the development of local groups which might have been able to approach the government.
- So far, the NGOs have operated on behalf of the people. There is still a long way to go before local groups are in a position to formulate their own demands.

A joint coordination committee consisting of the representatives of the GOs, NGOs and independent experts should be put in place in order to constantly monitor and mediate in the process of implementation

However, since the process of GO-NGO interaction is still in the experimental stage, there should be a substantial scope for improvement through dialogues. What is important is to evolve an interactive mechanism by which the process is constantly modified.

POLICY IMPLICATIONS

The foregoing analysis highlights certain features which have important implications for strengthening collaborative arrangements between NGOs and GOs.

- While a demarcation of responsibilities between NGOs and GOs may be appropriate, NGOs should be involved in all the three major stages of the project, viz. planning, execution and follow-up management.
- Sequencing of intervention by the two agencies is also very important. For instance, motivational efforts of the NGOs have to precede the actual field activities of the GO. NGOs must play an important role during the entry phase which will be very crucial for the effective implementation of the project.⁹ However, this also makes it clear that the NGOs play a special role in the project which may cause resentment on the GO side and lead to unhealthy competition between the two types of organisations. It is essential for project success that the two collaborators build-up creative synergy rather than a spirit of rivalry. Different ways, such as incorporating at least one GO functionary into almost all the major field activities organised by NGOs must be explored. Similarly coordination with the NGOs should be considered as one of the important parameters for internal monitoring and evaluation within the GO. It is important that the GO accords to the NGO access to physical infrastructure and financial resources in order to help coordination and make the project more cost-effective. A joint



coordination committee consisting of the representatives of the GO, NGOs and independent experts should be put in place in order to constantly monitor and mediate in the process of implementation.

- Rather than operating strictly within the confines of the provisions made within the project, NGOs should also be in a position to widen the scope of the project, especially by mobilising labor and financial contributions from local people. In this case, for example, farmers should be helped in getting cash inputs through credit rather than harping on subsidies. The NGOs should arrange an input-credit scheme through village organisations; NGOs should be facilitated to provide start-up money for this. This is essential if their goal is to bring tangible improvements in productivity of land within a stipulated time span. Otherwise their efforts may get lost due to the administrative and financial constraints that are often faced by the government-supported programmes.
- It is desirable that selected NGOs should have some experience in the project area. However, if this is not possible NGOs should take up certain programmes which cater to the felt needs of the people. Such initiatives will work as an effective entry point and pave the way for a meaningful interaction between NGOs and local people.
- Ideally, the follow-up management should be undertaken by local organisations which have come up during the implementation stage. However, NGOs should be quite careful on their withdrawal strategy for it takes a very long time for a watershed project to establish all its potential linkages. This calls for a long-term commitment on the part of the NGOs to realise the full potential of integrated development.
- Gradually the GO's role should be changed to that of facilitator to the NGOs which in turn will hand over direct responsibility for project implementation to the people's organisations. The NGOs' main role would be to line up technical and financial support from the GOs for the project. Thus, the NGOs should work as a bridge between the people and the state.

The last point indicates gradual progression towards a 'subtle state'¹⁰ which helps in building up NGOs as 'change agents'. In this model it is envisaged that as a provider of information as well as technical and financial support, the state should work to ensure high level performance by NGOs/people's organisations. This implies that the state plays a pro-active role. At the same time, it would also imply



that NGOs should work in harmony with the state's overall development plans, rather than working in isolation. This scenario is certainly different from the picture that emerges from the above analysis in which the state is the primary executor and decision-maker. It also differs from a scenario in which NGOs are the sole performer and in which the state plays only a passive role. What is proposed here is the evolution of a large number of strategic institutions actively supported by the state, which plan and execute on a long-term basis.

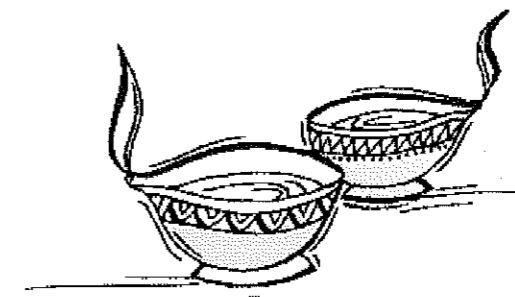
ENDNOTES

- 1 As envisaged in the VIII plan, '.....the voluntary agencies who have abilities demonstrate and innovate, provide technology and training and act as support mechanism (emphasis the author's) to the local institutions should be increasingly involved in the implementation of developmental programmes.' (Government of India, 1992).
- 2 One of the few experiments in NGO-GO collaboration for watershed projects in India is between MYRADA and Dryland Development Board of the Government of Karnataka. For details see Fernandez, A.P. (1993).
- 3 For further details see various publications from the ODI Network Paper Series under Agricultural Research and Extension Network. For instance: Wellard, K. et al. (1990); Copestake, J.G. (1990); Sumberg, J.E. (1991); and also Farrington and Biggs (1990); Farrington and Bebbington (1993).
- 4 These projects are supported under the World Bank Programme for Integrated Watershed Development Projects for the Rainfed (plains) Regions which is being implemented in about six states in India.

Importantly, the design of this programme is very similar to the recently modified scheme, i.e. National Watershed Development Project for Rainfed Agriculture which is supported by the Government of India throughout the country. Hence, lessons learned from these experiments may have wider relevance to the watershed programmes in the country.
- 5 The Gujarat State Land Development Corporation has a huge technical staff trained in soil sciences and physical engineering but hardly any with a specialisation on social engineering.
- 6 Encouraged by the experiences of some of the South-East Asian countries, the World Bank is trying to introduce vegetative measures which have special advantages in terms of environment as well as cost-saving. However, to test its effectiveness in the very low rainfall regions in India, special efforts are being made in terms of adaptive research. Until that point the project is on an exploratory basis.
- 7 The initial approach of the GLDC was typically top-down. This was brought out very sharply when even trees planted on private lands were referred to as 'government trees' (or GLDC's trees).
- 8 The process of GO-NGO interaction was also influenced by a facilitator whose major task was to help the collaborators appreciate each others' strengths and suggest flexibility in the project implementation to suit location specific requirements.
- 9 The importance of NGOs' strategy at the entry and need for technical flexibility is also highlighted by the MYRADA experience (see Fernandez, 1993).
- 10 For a recent analysis on the interface between the State and the developmental organisations in India, see Shah, T. (1993).

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ORGANISATIONAL AND HUMAN RESOURCES DEVELOPMENT ASPECTS OF ENHANCING COOPERATION BETWEEN PEOPLE AND INSTITUTIONS

James Mascarenhas • OUTREACH • Bangalore

INTRODUCTION

Conservation and management of natural resources has been a concern in development for several decades. There exists today, however, a universal urgency to develop approaches to natural resources management (NRM) which are appropriate, low cost, and sustainable. This urgency is dictated by exploding populations in the third world and a widespread and accelerating degradation and destruction of natural resources by communities trying to meet their food security and livelihood needs. Consequently there is an ever increasing number of government, non-government, donor research and several other organizations and institutions which are currently addressing this important issue in various ways.

As a result of this engagement, conventional approaches to NRM have also undergone substantial changes. For example, from merely addressing soil conservation and afforestation sectorally in the past, today more emphasis is given to integrated treatment of the land on a watershed basis. This is more comprehensive. Similarly, there are attempts to change from centralized and strictly target driven 'blue print' approaches to ones which are more participative, flexible, decentralized, and 'process' oriented. Vigorous efforts are also being made to increase the involvement of client communities in the development process, particularly with reference to NRM, in order to bring about a balance in what were hitherto predominantly technocratic approaches. A variety of institutions for the purpose of participatory NRM have evolved, and will continue to evolve in the future, as we come to grips with the realities of following this path. One of the main features of this evolution has been the advent and inclusion of NGOs as necessary and legitimate instruments of change particularly in terms of organizing enhancing capabilities and the need for community-based institutions to drive and manage the process of programme implementation in terms of NRM programmes.

Once intervening agencies get engaged with local communities as partners in the development process, several complexities arising out of social, political, economic, environmental and pure and simple human dynamics begin to emerge and confront them. Bringing about change also means generating new tensions, which have to be successfully and appropriately managed. New roles emerge for the various actors. These must be identified, negotiated and defined. It must be realized that this is not a task for anyone of us individually but for all of us collectively. In order to be truly effective, institutions that are created with the objective of participatory NRM must be innovative, flexible, sensitive and responsive. More importantly, they must be learning organizations which are able to facilitate and enable participatory processes to take place – not only within the communities but also within the development agencies themselves. This organizational development (OD) and institutional development (ID) is particularly important to address the behavioral, attitudinal and cultural aspects of individuals, organizations and institutions. In particular, strategies must be evolved which would enhance the participation and stakes of client communities in the programme and also enhance their capabilities to manage the assets that are created in their habitats.

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This paper attempts to share some experiences. It does not address technical or policy aspects. Instead it restricts itself only to issues concerning participation. For the sake of convenience, the issues touched upon are related to the context of watershed development (WSD). However, the same principles would apply to other forms of natural resources such as forests or marine resources. The paper does not aim to provide answers to the problems, only to raise issues and questions that need to be addressed.

SOME ISSUES CONCERNING PARTICIPATORY NATURAL RESOURCES MANAGEMENT

As mentioned in the introduction, there are several complex issues which impinge upon the aspects of community participation in NRM. These need to be understood and addressed by developmental agencies if a satisfactory measure of sustainability is to be achieved. Some of the issues (in relation to watershed development) are as follows

Issues at the watershed level

The need to take into account that people are living in the watershed and use its resources

They are seldom homogeneous, and consist of several interest and user groups. Such communities have to be organized into functional and viable groups around WSD activities such that the resources of the WS are more effectively managed to meet legitimate biomass needs of the communities, without compromising the health of the WS.

Evolution of integrated development of watershed resources, instead of the narrow sectoral approaches

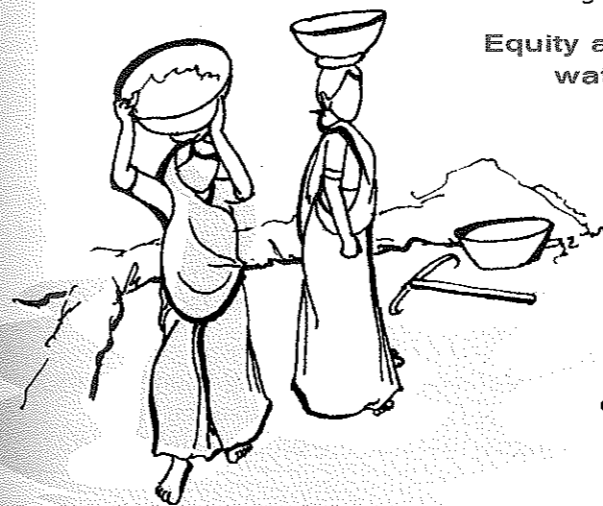
This impinges directly on the participation of WS communities in several ways, as it addresses the requirements for soil and moisture conservation, revegetation, forestry, grazing and fodder and crop production more comprehensively.

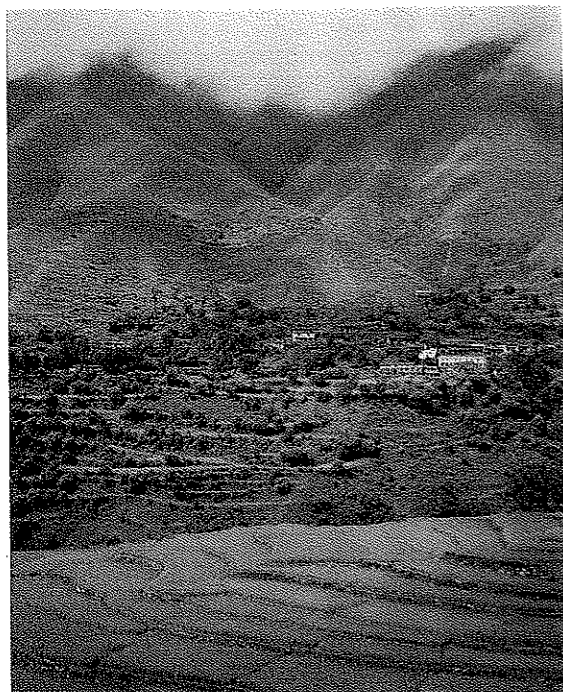
Emphasis and promotion of participatory technology development

This is required in order to combine the benefits of time tested local technologies evolved by local communities with exogenous technologies which are being offered by outside institutions. Not only does this involve the WS communities in the technology generation and search process, it also shifts the emphasis from a rigid 'package of practices' approach to a more flexible 'basket of choices' approach. It will therefore have a direct influence on the cost of WSD activities as well as on their management and sustainability.

Equity as a fundamental principle of sustainable watershed development

Landless people and subsistence farmers, in order to meet their legitimate livelihood needs, will often turn to living off any available patch of land or biomass that exists in the watershed. This also implies the need to plan for economic activities which are of a non-land based nature in order to reduce the demands being placed by communities on the natural resources of their watersheds in order to meet their livelihood needs. (This is well illustrated by the 'encroachments' that are commonly seen in the upper reaches of several watersheds, brought about by poor people attempting to eke out a living from such patches (of common land).





Gender issues

This does not imply the inclusion of women and the exclusion of men but stresses those aspects affecting the practical and strategic needs of women who are living within the watershed. Genuine efforts must be made to improve the condition and position of women in watershed programmes, particularly with a view to giving them an opportunity to have a greater say in how the resources of the watershed should be developed, used and managed.

Arrangements for equitable management of the commons

This is particularly related to defining issues related to equitable usufruct rights and equitable sharing of watershed biomass particularly with women and landless.

Emphasis on "Capital Formation" within each watershed

Such capital consists of cash, (from savings and credit activities which are internal and grants, loans, etc which are mobilized from external sources). Assets such as check-dams and soil and water conservation structures and trees, technology,

(indigenous as well as exogenous) human resources (leadership, awareness, confidence skills, experience, etc..) and institutional capital (systems, procedures, rules and regulations, norms and sanctions).need to be created

Provision of incentives which enhance participation

By this we do not mean only grants or subsidies to the watershed communities, but also rewards and recognition for local initiatives and above all an engagement or partnership with them that is consistent and enduring.

Conflict resolution and the facilitation of co-operation within the watershed

This is an inherent part of any developmental activity but it is seldom addressed with any degree of emphasis. Conflicts occur quite naturally wherever human beings exist. They also vary in nature depending on the location, the issues and the individuals, organizations or institutions involved. Traditional community mechanisms for dealing with these conflicts effectively need to be reactivated and new ones evolved.

The need to build up the stake of the watershed communities in the programme

Often, WSD projects exclude communities from participating in the programme. Various measures such as enabling communities to participate in project planning, implementation and management, recognition and inclusion of indigenous technologies and management systems, measures for cost-benefits sharing etc. need to be introduced, in order to enhance the ownership of the project by the concerned communities. Of particular importance is the need to enhance the stake of communities in terms of actual and voluntary contributions towards the costs of the programme in terms of cash, kind and labour.

In other words, the arena that we step into in participatory WSD programmes goes beyond the relationship that we would have if we were dealing with natural resources in a purely technical sense. The human, organizational and

institutional dynamics particularly of heterogeneous groups of communities and a range of formal as well as informal community institutions in relation to NRM in the watershed is a complex and challenging one. But it will need to be addressed forthrightly and appropriate measures and structures for dealing with the complexities evolved.

Issues at the development agency level

In general, NGOs have commitment without adequate competence

Even though their strength lies in their ability to mobilize local communities there exists a major deficiency in terms of their appreciation of the technical and managerial aspects connected with NRM. It is this gap which needs to be filled or complemented appropriately with knowledge and skills from other agencies. In recent times, the understanding of issues related to community organization and participation, especially approaches and techniques for community organizations have also witnessed rapid development and have become specialized in themselves. Updated knowledge and skills in these aspects are also prerequisites for enhancing community participation.

NGOs often lack financial resources as compared to government and other financial agencies

This hampers somewhat their growth and development into institutions which can influence and foster change of the desired quality.

With government agencies, it is top-down, bureaucratic mode of functioning

This is a well known phenomenon and one which is considered as the major hurdle to community participation. It has the following characteristics :

- **It is target driven rather than process driven**
No time or resources are allocated for preparatory activities and learning processes to take place among the communities and other intervening agencies.
- **It is non participative**
Client communities are not drawn into the planning, implementation or management processes.
- **It is regulatory in character**
As a result of colonial history government officials have been trained in a regulatory mode and not a participatory mode. It is difficult for them to change, as it is has become almost a second nature to act in a regulatory way.
- **It is often sectoral and lacks comprehensivity**
Each Government department addresses only one sector e.g. soil conservation or forestry or horticulture and not all the sectors in an integrated manner.
- **It is not flexible, innovative or responsive**
As a result, is unable to address and cope with the dynamics that is inherent in community centered NRM projects.

MEANS AND MEASURES FOR ADDRESSING THE ISSUES

Effective community involvement is central to the attainment of sustainable NRM. However, participation does not restrict itself to the community alone, but also

involves various development agencies whether they are government, NGOs, donors or other organizations, and the staff from these agencies.

Secondly, community participation is not a one time activity, but rather, a slow ongoing process. These points need to be kept in mind while addressing the issues of participation and sustainability in NRM.

Some of the major measures which must be addressed, in our efforts to achieve participatory NRM are as follows:

Stakeholders analysis

A detailed analysis of the possible stakeholders and their influences in participatory NRM needs to be done. Who are they? Which are the key stakeholders who will either have a positive or a negative influence on the project? Whose participation must increase and whose must be controlled and managed?

Several groups of stakeholders can be identified:

Those from the watershed community

Landlords (big farmers), small and marginal farmers, landless persons and artisans and women, all of whom use the natural resources of the watershed in some way or the other. They may not all come from the same community or village. Their representatives perhaps have the second most important role to play after the members of the SHGs and the watershed groups.

Existing external institutions

These are the different government departments and individuals from government, especially bureaucrats who hold key administrative posts, NGOs who may be involved, financial and funding institutions, (including donor agencies) technical and research institutions and politicians (including the political executive.)

New institutions

These may need to be created for the purpose of implementing the project in a manner that is considered desirable, such as village self-help groups, watershed management committees and other user groups, Apex bodies which include representation from GOs and NGOs such as joint project implementation committees, project management committees, steering committees, etc.

The preparatory process

There are several aspects related to this:

Community organization

Experience in similar projects indicate that in cases where sufficient time and resources have been provided for the formation and development of functional groups of users of the watershed's resources, there has been a significantly higher level of awareness and participation in the programme. This has expressed itself in terms of a higher level of involvement in the planning and implementation of the project's activities, contributions towards the implementation costs and improved management of the watershed's resources.

This process in practice averaging around a year, is a period where various interest or user groups are identified and enabled to develop into functional organizations. The basis for group formation is a common interest. Savings and credit activities help to consolidate group activity and this is a



critical part of the group development process. Apart from this, the groups are given training and exposure and helped to develop their knowledge, experiences, skills and confidence. Leadership development is also fostered and the group's perspectives in terms of watershed management and NRM are greatly enhanced as a result. The importance of this activity cannot be over emphasized.

Savings and credit management activities

In several NRM projects it has been observed that the savings and credit management activity has in itself been instrumental in raising the confidence and motivational levels of the communities and has increased their participation and stake in the programme. Specially in relation to OUTREACH's projects, most groups studied indicated that the utilization of savings followed a pattern of evolution.

Table 1: Utilisation of savings

YEAR	UTILISATION %	UTILISATION PURPOSE
1	90%	Consumption related to meeting food security needs health needs, housing and other emergencies and economic shocks
	10%	Small production activities related to agriculture.
2	70%	Used for land based activities Eg. land development (soil and moisture conservation, land leveling, minor irrigation, land clearing and reclamation etc). agriculture (purchase of seeds, fertilizer, implements etc.), or other land based activities such as horticulture,sericulture etc.,
	30%	Continues to meet emergency needs for food, health, housing.
3	50%	Used for land based income generating activities but livestock farming, particularly of small animals becomes prominent
	40%	Used for non land based income generating activities such as small industries, businesses and services, etc
	10%	Continues to be used for emergency needs

(Note All OUTREACH's projects are located in drought prone areas. Ex. Bijapur, Bidar and Kolar districts in Karnataka, Anantapur, Chittoor and Cuddapah districts in Andhra Pradesh and Dharmapuri in Tamil Nadu, where the levels of poverty are also very high as compared to better endowed areas)

This illustration is extremely significant in relation to sustainable NRM and needs to be strongly emphasized. Groups which had evolved in this manner from being barely able to subsist in the initial stages were gradually making investment decisions on their land and taking up entrepreneurial activities which were non land-based in nature. The latter were beneficial from the NRM point of view as they allowed for biomass and soil regeneration to take place by providing stable alternative forms of livelihoods.

Stake building

The old Chinese proverb, 'Give a man a fish and you feed him for a day, teach a man to fish and you feed him for life,' needs no elaboration. It's connection with sustainability is aptly captured. OUTREACH's experiences have been, that apart from the community organization i.e. the forming and developing of SHGs and the initiation of savings and credit activities, it is important to introduce the element of community contribution towards project costs, in order to ensure greater sustainability. In other words emphasis must be placed on stake building within the programme.

This needs to be clearly worked out and negotiated with client communities. It must be appealing to them. Often the concept of cost contribution is not properly introduced to the communities, in a process-oriented way. Rather it is enforced in a

...where the subsidies have been given to the group and not to individuals, they have been better utilized, with the groups deciding the necessity and level of subsidies to various individuals for various works

target-oriented way, and therefore it does not work. It also often happens that apparent cost contributions are calculated based on manipulation of minimum wage rates vis-a-vis local opportunity wages. Such calculations apart from being delusive, do not build up community stake. Another common malady is indiscriminate and irrational applications of subsidies in soil and water conservation activities. It must be stated that subsidies are needed - particularly in the drought prone and less endowed areas. But the manner in which they are evolved and administered must be thoughtfully worked out. OUTREACH's experiences have been that where the subsidies have been given to the group and not to individuals, they have been better utilized, with the groups deciding the necessity and level of subsidies to various individuals for various works.

Given here are a few illustrations from OUTREACH's Chinnabovi Vanka Watershed Project in Madanapalli, Chittoor district in Andhra Pradesh. These give an indication of the stake building process that OUTREACH has introduced in its project with a view towards developing greater community ownership in the programme which is demand driven and at the same time stands a greater chance of sustainability.

Three very important features characterize this approach. The first is that the contributions are entirely voluntary, worked out by the community and based on its own norms and conditions.

The second is that community contributions are not repaid to OUTREACH but are collected by the respective SHGs and used as a corpus fund for further land development activities, maintenance of assets or even for income generating activities (especially activities which are non land-based and which in turn have a positive impact on the condition of the natural resources in the watershed).

The third feature is that all programme funds related to watershed development activities are administered by the apex bodies and channelised through the groups themselves.

OUTREACH's experience has been that there is now 'spontaneous adoption' of this approach by communities living in the vicinity of our projects. Requests and applications are being received from neighboring communities to start similar activities in their villages along similar lines.

During this critical period, which continues even further in terms of group building and development, the project learns about the watershed communities their dynamics and their interactions with the primary resources in their watershed, such as grazing systems, biomass collection and managing it's collection and other institutional ways in which the community has been managing it's resources. This is only the beginning of a major 'learning process'. PRA and other participatory methods and techniques play an important role during this period in terms of developing a clearer understanding about the context, the interaction between the community and related resources and the behavioral pattern of communities in relation to natural resource management. A watershed project which builds on such a base is bound to have greater success as the communities can relate better with a project which emerges in response to their own needs and actions. The creation of tree assets was invariably also a part of this process.

Training and Human Resource Development (HRD)

This is also part of the preparatory process and is as important as the process of community preparation itself. Though training and HRD measures address the watershed communities, a substantial amount of training and HRD also needs to be carried out in the case of staff of the various development organizations that are involved. Though the stakeholders' analysis will help in identifying some training

needs, experiences also show that a significant amount of emphasis must be placed on 'Behavioral' training. This touches upon a range of topics such as communication and listening, sensitivity, interpersonal relations, leadership, teamwork and so on, which empower individuals and therefore enhances the quality of the outputs of various individuals and organizations who are involved in the process of development of natural resources and enhancing community participation in NRM. As mentioned, it is particularly important that a culture of participation and sharing be developed within and between the development agencies themselves in order to appreciate and subsequently enable community participation to take place. As this also implies empowerment of individuals it is an important part of the preparatory process i.e. as important as the community preparation activity itself.

DEVELOPING A LEARNING PROCESS

One of the major drawbacks of many NRM and other development projects in the past has been their inflexible 'blue print' approach which has not allowed for creativity and innovation to take place. Nor have these approaches enabled the project to respond appropriately and in time to local situations. Such a model is also characterized by the conspicuous absence of a learning process. The learning process in itself implies experiential learning i.e. documenting and reflecting on experiences, discussing and analyzing them and revising and re-adapting the approach. It implies different agencies working together as teams, sharing their experiences and developing a common understanding, vision and approach. Most of all it implies a sensitivity to what client communities are saying and responding to their needs and suggestions in the context of NRM.

Developing such an approach or culture in NRM projects is a challenge in itself. In recent times substantial efforts have been made in terms of developing participatory techniques and approaches which promote the process of participatory learning. At the community level a series of village-based participatory workshops are held in which watershed communities and staff from various development agencies participate and try to arrive at a shared understanding about the local situation in terms of its social, economic and environmental contexts. These exercises try to arrive at an understanding of indigenous technologies and systems of management developed and being used by the community. They also try to understand, how the community sees the project or is being impacted by it. The future approach of the project is derived from this knowledge.

Examples of this are the exploratory exercises done in PRAs. These exercises generate information on trends (historical transects and trend diagrams) in resource use, land based and non land based livelihood systems, traditional ways in which the resources of the watershed have been managed and used (eg. fuel, fodder, trees grown, water availability and use, grazing systems, indigenous technologies etc.) Problems, constraints and opportunities, relationships of the watershed with the main village and the other neighboring villages, study of local formal and informal institutions and their relevance, seasonal patterns of activities and events such as agricultural and domestic operations, migration, diseases of humans and cattle, fodder availability, credit needs, difficult times of the year, slack periods and so on are addressed in a more detailed manner. Of particular importance are the study of the existing patterns of management and use of natural resources in the watershed and the wealth ranking exercises which



Table 2: Chinnabovi Vanka Watershed Project, Madanapalli, Andhra Pradesh
(Statement of Self Help Groups – watershed and non-watershed activities)

Name of SHG	Total Savings	Other Income (Internally Generated)	Outreach Watershed (W/S) Grant	Total Amount	Amount loaned for non W/S Activities	Amount loaned For Watershed Activities		Total Loans Granted		Repayments		Balance in Circulation	
						Grant	Loan	No. of Loan	Amount (Rs)	Non W/S Activities	W/S Activities	Non W/S	W/S Activities
Parvathy	8,390	2,733	-	11,123.00	122,258	-	318	122,258	118,594	-	3,724	-	
Varalakshmi	12,395	5,053	10,939.60	28,387.60	112,568	3,294.00	421	115,862	105,378	3,215	7,190	79	
Shanalakshmi	12,550	2,575	63,985.70	79,110.70	127,148	37,411.70	411	153,722	119,532	22,484	7,586	4,090	
Sivajiothi	5,610	1,429	-	7,039	85,406	-	186	85,406	73,581	-	11,825	-	
Bhagyalakshmi	8,361	1,852	3,421.50	13,589.50	104,602	1,711.50	172	106,312	76,647	1,344	27,955	366	
Jayalakshmi	5,870	644	10,548	17,062.00	39,048	5,274	89	44,322	32,703	4,270	6,345	1,004	
Total	53,131	14,286	88,894.80	156,311.80	591,030.00	52,042.80	1597	627,882	526,405	31,313	64,625	5,539z	

*Note All Groups are Women's Groups

are carried out to identify who the poorest members of the community are. This is done by means of participatory social and resource mapping exercises. These exercises also indicate the occupational and land holding status and other information of a socio-economic nature. The study of the management and use of natural resources in the watershed includes the status of land use - (cultivated, non cultivated, grazing, fallow, single/multiple cropping, irrigation wastelands, ravines, problem areas, different soil types, fertility, productivity and so on).

At the level of the development agencies (DAs), there is a similar interaction, also of a participatory nature, where staff from the various DAs are encouraged to interact and share their experiences about the watershed and WSD with one another. This form of experiential learning is a major factor in developing a more open and shared understanding of the project and is empowering in itself. It also allows for mid course corrections or minor adjustments to be made consistently. This in itself is a major factor contributing towards sustainability. However, disciplined process documentation is a must. Much of the experiences of rural development projects are lost due to lack of documentation and consequently much learning is also lost.

Table 3: Illustration of the relationship between SHGs, Apex organisations and OUTREACH (OUTREACH Chinnabovi Vanka project)

SHG's (Women)	Common fund from savings	Sources	Apex organisation	Common Fund	Sources
1. Sri Mareamma	9475	Savings, donations, interest, fines, grants, contributions towards programme cost	SWATHI	6142	Membership fees Rs 116 x 12 = 1,329.00 Service Charges inputs supplied to Groups a) Gypsum: Rs 5/- per bag for 1020 bags = Rs 5x1020 = Rs 5100.00 b) Fertilizer: Rs 5/- per bag for 37 bags = Rs 5x37 = Rs 1895.00 c) Seeds: Rs 1/- per kg for 1460 kg = Rs 1x1460 = Rs 1460.00 d) Mango Plants: Rs 3/- per plant Rs. 3x439 = 1317.00 e) Loan from OUTREACH Rs 50,078.00
2. Sri Ganesh	6554				
3. Sri Rama	12313				
4. Sri Ganga	5285				
5. Sri Srinivas	7846				
6. Sri Parvathi	10550				
7. Smt Chaitanya	7688				
8. Sri Varalaxmi	5071				
9. Smt Ammajan	6283				
10. Smt Enugumalama	11877				
11. Smt Saraswathi	5748				
12. Smt Dhanalaxmi	3800				
TOTAL	112490				
Total number of loans issued		- 2695			
Total amount		- 352840			TOTAL = Rs. 61,179.00
Functions				Outreach's Role	
<ul style="list-style-type: none"> Collects and consolidate indent for inputs from members Plans development programmes. Eg. WSD negotiate cost contributions (labour, material, cash) Represents village/members needs Eg. electricity, water, etc. Bring informations news from villages Searches purchases and suppliers to groups in bulk Appraises and recommends to OUTREACH for funding Represents and lobbies at district headquarters Feeds information and news eg. govt. programmes such as immunization, etc. 				Supportive and Facilitative <ul style="list-style-type: none"> OUTREACH raises funds for specific Projects Funds channelised through apex body to respective groups (GRANTS) Groups enter into agreement with members on loan: Grant Ration (35 - 50%) Scope for more broad area development plans 	

INSTITUTIONAL ARRANGEMENTS

The set-up or arrangement of various institutions who are involved in NRM projects is of critical importance. Particularly, with a view towards fostering a process of participation in NRM projects it is important to consider what types of institutions need to be involved and how these should relate to each other. This is required in order to provide complementarity and combine existing strengths.

Basically, there are two major types of institutions which need to link and interface with each other. The first, is at the level of the community and starts with various self help and user groups at the micro watershed level as described earlier (internal stakeholders). These need to be in some way federated at the watershed and regional levels, and also form some sort of linkage with the local Panchayati Raj institutions.

The capacities of these federations or apex institutions to interface effectively with the outside institutions, and at the same time perform the function of NRM is developed over a period of time, through exposure and training. It starts with the development of self help groups. A common error in NRM and other rural development projects, is that the withdrawal and handing over process starts towards the end of the project rather than at the beginning. As a result, local community institutions do not develop the basic capabilities that are required for post project management, resulting in repeated failures of projects. The development of apex community institutions that are able to carry the NRM process forward on their own, is therefore an important precondition for sustainability to take place. Table 2 gives an illustration of one such apex organization from OUTREACHs Chinnabovi Vanka Watershed Project.

A second set of institutions consists of all the agencies who are involved in NRM project implementation (external stakeholders). These would consist of local government and other government departments at different levels, NGOs and funding organizations, financial, research and other types of institutions.

Each of these organizations has a role to play in NRM projects as each brings with it certain strengths and areas of expertise. For eg. NGOs play a major role in the community organization process. Research institutions would help in the technology generation process and so on. These institutions need to work together as teams, and in partnership with local communities. As part of the preparatory process earlier described, they need to be oriented and enabled to interface

effectively among themselves and with watershed communities. This should be done in the same way that capacities of watershed communities are being developed so that they can effectively interface with outside institutions. Whatever the approach followed, and whatever the institutional arrangements that finally emerge, it is important that two things be given top priority. Firstly, the capacity building, of the various institutions in relation to the task viz. participatory NRM and secondly, the interests of women, landless and other marginal groups be constantly and consistently, emphasized and addressed.



POLICY FRAMEWORK

It is important that the lessons learnt from various NRM projects be constantly distilled and feedback at the policy level

A policy framework which supports and promotes participatory NRM is another important precondition, for sustainable NRM to take place. In this regard it is important that the lessons learnt from various NRM projects be constantly distilled and feedback at the policy level. Policy makers also need periodic exposure to the field in order to observe and understand processes that are taking place there. This not only includes bureaucrats and senior members of funding organizations but also elected representatives of local government and members of the political executive. The orientation of this group is an important input in NRM projects and must start as part of the preparatory process itself as earlier described.

CONCLUSIONS

Sustainable NRM is an effort to permanently arrest and reverse the process of depletion of natural resources. Even though this issue has been a major concern for some time, it has lacked an integrated or comprehensive approach, which recognizes the necessity and right of concerned communities to participate in the restoration and development of their habitats.

Rural communities are vast storehouses of knowledge and experience about their local conditions. They have survived in these often hostile, uncertain and marginal conditions over generations and have evolved their own strategies technologies and management systems. These need to be inventoried and validated and included as inputs and resources in the development process. This in turn would have a significant impact on enhancing their participation in NRM programmes. Of key importance is the need to take stock of local situations and traditional and institutional ways in which communities interact among themselves and with their environment.

There is no doubt about the essentiality of community participation in NRM projects, if they are to be sustainable. Perhaps the two most critical elements in this regard are:

- The need for a 'Preparatory Process' prior to project implementation, wherein, watershed communities are organized, and the ground is prepared for the main project.
- The development of community stake and equity in the programme.

Ways and means need to be worked out to make certain that this takes place. A policy and institutional environment and institutional framework which supports and enhances this process is a must.

