

# **FORESTRY FOR DEVELOPMENT**

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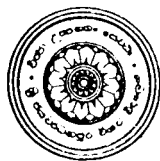
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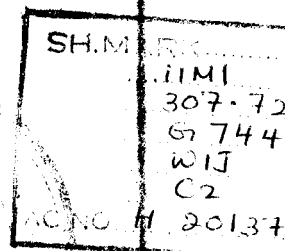
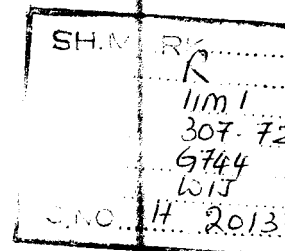
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## **SUSTAINING FORESTRY INTERVENTIONS FOR RURAL DEVELOPMENT: RESULTS FROM A LEARNING PROCESS APPROACH IN HURULUWEWA**

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### **ABSTRACT**

The lack of forest cover in critical areas of the Dry Zone of Sri Lanka has been an important issue affecting the sustainable management of other important resources, including water (particularly for irrigation) and in fact the productivity of the entire agricultural sector. Forest development programmes have an inherent constraint as they are unable to generate sufficient cash returns to the people, at least in the short term. It is of paramount importance that developments in forestry should be linked with the development of the entire farming system. This will ensure the sustainability of the forest as well as other resources and will lead to sustained socio-economic development. Studies indicate that participatory approaches to reforestation can be made effective if such programmes are designed with a farming systems perspective.

This paper presents the finding of a rural development exercise in Huruluwewa watershed, which initially focused on reforestation under the Participatory Forestry Project (PFP). It describes the process of transforming participatory forestry interventions to general rural development facilitated by the Shared Control of Natural Resources (SCOR) Project. It also discusses the main advantages of this approach.

Among the key issues emerging from the learning process described in the paper are: the benefits to local people resulting from participatory reforestation; the process and the outcome of the transformation of interventions in forestry to wider rural development; the outcome of the integration of different projects operating in the same area; the role of agencies in facilitating the rural development process initiated by people's organizations.

Finally, the paper discusses the programme and policy implications of this case study.

### **INTRODUCTION**

Forestry has been an essential component of the farming system in Sri Lanka from ancient times. A review of historical literature indicates that the watershed area of every tank and

the sides of every waterway were provided with good forest cover. In addition, the whole of the hill Country had remained as forest until the 17th century, when the British began to cut it down in order to establish commercial crop plantations. Our ancestors in their wisdom, realized the importance of maintaining the forest cover of the Hill Country which was the catchment area of all the major rivers that flowed into the different areas of the country. The rulers considered it their duty to preserve these forests and political changes or even upheavals did not have any negative impact on the forests. Robert Knox, a prisoner in the 16th century, provides a vivid account of the forest cover in the Hill Country. He wrote that there were trees and forests throughout the Hill Country area from which a large number of springs and water courses sprang, providing water throughout the year. The valleys were covered with paddy fields which obtained their water from the springs which came from the forest-capped mountains (Knox, 1867).

The civilization of Sri Lanka was primarily based on irrigation. It is believed that the Island's first irrigation tank was constructed in the year 450 B.C. Successful irrigation planning required that water received from rains during the short rainy period was conserved for use throughout the year, which included a long drought period. The forest cover not only regulated the river flow, but also prevented siltation of the reservoirs so that effective storage could be maintained in the tanks. For this purpose, the forest cover within the catchment area of each tank, whether large or small, was carefully maintained. In other words, no person was allowed to cut and remove trees in the forests of the catchment area called "Tisbambaya". The community as a whole was responsible for the protection of the forest cover. Customs, traditions and specific institutions helped the community to discharge its responsibilities in this regard. The provision of proper and adequate drainage facilities was essential for the smooth functioning of the irrigation system. In this connection, it was essential that the salts in the soil were retained. Erosion also had to be prevented. Both these objectives were met by having forest cover with species possessing salt absorption qualities along the drainage lines (SCOR, 1994). All drainage lines linking one tank with another had a forest cover.

The sustainability of irrigated agriculture and that of the entire farming system was very closely linked with forestry. Forests were also integrated with the community because the villagers used forests to carry out chena cultivation. Chena farming has been a dominant form of agriculture since ancient times. Forests also provided the people with various other products which in modern terminology are called 'minor forest products' or, more recently, 'non-timber forest products' (NTFPs) or 'non-wood forest products' (NWFPs).

## **OBJECTIVES OF THE PAPER**

This paper presents the findings of a rural development exercise in the Huruluwewa watershed in the North Central Province (NCP), which initially focused on reforestation under the Participatory Forestry Project (PFP). It describes the process of transforming participatory forestry interventions into general rural development, a process which has been facilitated by the Shared Control of Natural Resources (SCOR) Project. It also

discusses the main advantages of this approach and some lessons that could be learnt from this pilot exercise at Huruluwewa watershed.

## **FOREST COVER AS AN INTEGRATED COMPONENT OF THE FARMING SYSTEM**

Forests have always been an important component of the farming system. However, various factors have led to the accelerated removal of the forest cover in vital areas of the farming system. The decline of forest area due to the interventions by the British has already been mentioned. The unplanned irrigation development work embarked upon by the British during the 18th and 19th centuries resulted in the expansion of a large number of village tanks. In this process, due consideration was not given to maintain the forest cover in the tank catchments as well as along drainage lines. Other development work such, as the construction of roads and using the catchment area for other development work, led to the removal of forest cover and related imbalances in the hydrology of the tanks, leading to problems in water management. Some traditional institutions which had been responsible for the protection of forests and other natural resources were either abolished entirely or replaced. It has been realized that the destruction of forest cover in critical areas of the Dry Zone has been one of the major factors adversely affecting the sustainable management of important resources, including water (particularly for irrigation) and in fact the productivity of the entire agricultural sector. Another unfortunate development observed recently is the lack of integration between forestry and the community.

In the past there has been no close integration between forestry development and rural development as a whole. For instance, since the 19th century, development of forestry tended to concentrate exclusively on reforestation without any consideration being given to the potential benefits that forestry could have for the community as a whole. Integrated Rural Development Projects (IRDPs) have also been concentrating on creating blocks of forest plantations. IRDPs should actually focus on rural development in an integrated manner. It is unfortunate that forestry planning had been done in isolation without focusing on overall development (MP and PI, 1989).

## **HURULUWEWA WATERSHED AND GERANDIYAULPATHA**

The Huruluwewa watershed is a part of the Yan Oya basin and is one of the 113 watersheds in the country (Figure 1). A greater part of the Huruluwewa watershed is located in the North Central Province (NCP) while some parts extend into the Central and Eastern Provinces. In addition to the Huruluwewa reservoir, which is a major irrigation works, a large number of minor irrigation works are also located within this watershed area. In the beginning, this watershed area had adequate forest cover. But as time went by, the forest cover has declined to dangerously low levels due to the illegal felling of trees, clearing of forests for chena cultivation and the launching of several development projects. At present, only isolated pockets within the watershed are covered with forest.

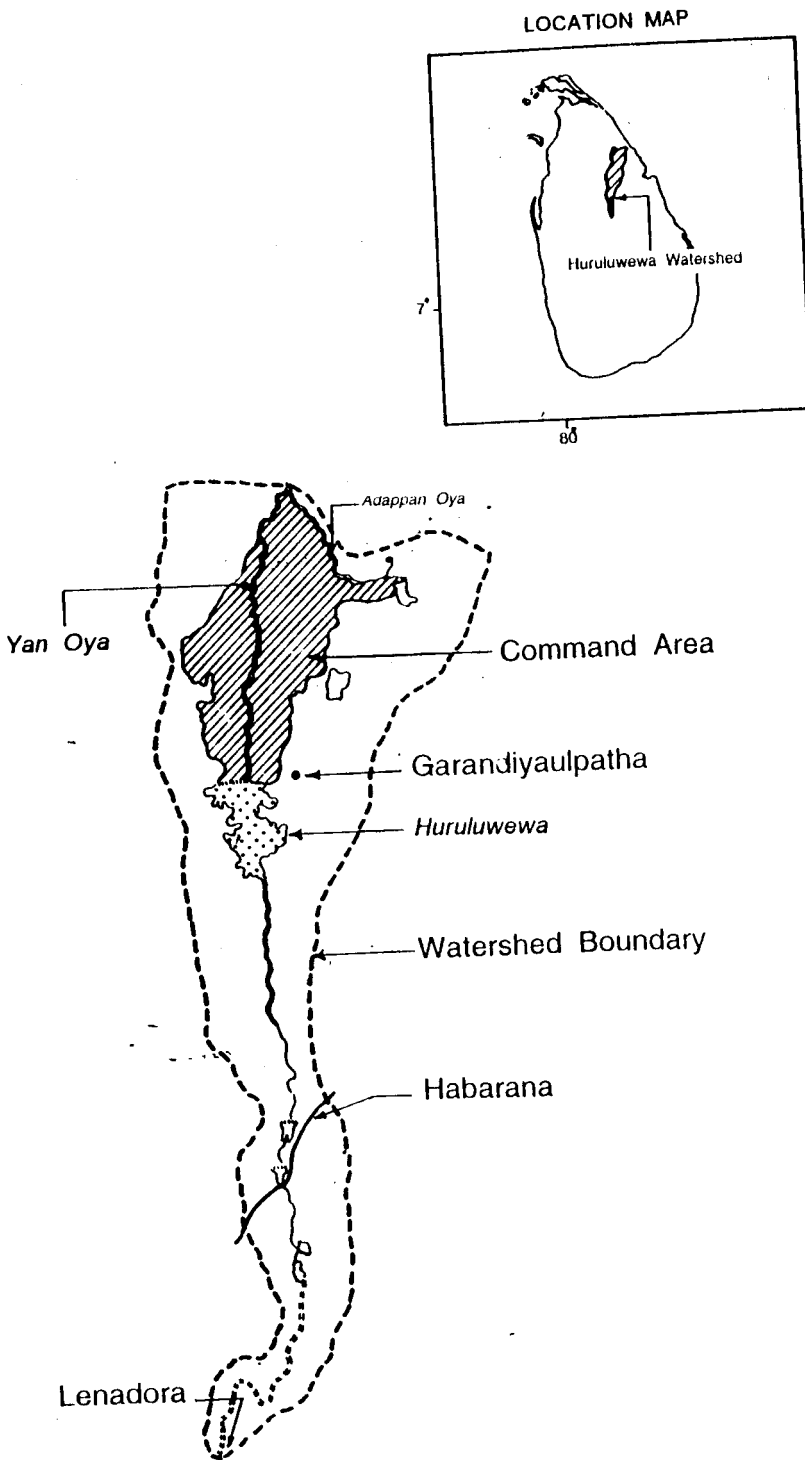


Figure 1 - Huruluwewa Watershed

Gendiyaulpatha is a village located to the south-east of the main reservoir (Figure 1). The name "Gerandiyaulpatha" means a spring from which emerges a stream which flows in the form of a snake. The picture of the sparkling waters from the spring winding its way like a snake amidst the rolling hills clothed with greenery is still very fresh in the minds of people who originally settled in this area in the 1970s. The lands in G'ulpatha were then under thick forest cover. But most of this forest cover has now been destroyed by the people in adjoining villages and by timber merchants. The land has also been utilized for chena cultivation by the people in Huruluwewa settlements and in the adjoining "Purana" (ancient) villages of Pandikaramaduwa, Rambewa, etc.. Over several years, chena cultivation has led to a decline in the fertility of the soil resulting in the scrub jungle found there today. In 1977, 12 families of the second generation of inhabitants of settlers were given land for settlement in G'ulpatha. However, damage by wild elephants and droughts have prevented these families from making a reasonable living. These settlers have not been able to develop their homesteads adequately. Recently, a few of them have started cultivating crops under irrigation since water is available at least along the stream mentioned above. Lack of capital to purchase water pumps has hindered their efforts to cultivate irrigated crops. The main occupation of these families during Yala is to work as hired labourers in the Huruluwewa settlement. In the Maha season, they plant seasonal crops and also practise chena. Some of them cultivate paddy lands in Huruluwewa under various tenure arrangements. As in many other remote Dry Zone villages, the people in G'ulpatha also lead a hand-to-mouth existence. They live in wattle and daub houses. The continuing practise of burning the vegetation for Maha cultivation further accelerates the process of degradation of the land around the village.

## **INTEGRATED ACTION OF TWO PROJECTS**

The Shared Control of Natural Resources (SCOR) Project facilitated by the International Irrigation Management Institute (IIMI) is a participatory research project aimed at experimenting with innovative strategies, both technological and institutional, for production expansion while at the same time protecting the land and water resource base in the Huruluwewa watershed. It is perhaps the only project in Sri Lanka which has focused attention on the watershed as the basic unit of planning and implementation. SCOR began its activities in late 1993. These included the preparation of a land-use plan, the formation of users' organizations, the setting-up of a nursery to raise seedlings for agro-forestry and a programme to improve degraded lands in G'ulpatha.

The implementation of the Participatory Forestry Project (PFP) of the Forest Department (FD) began in the Anuradhapura district in the latter part of 1993. The Project is aimed at increasing the tree cover in the country through four models of participatory reforestation, namely homegarden development, the establishment of farmers' woodlots, protective woodlots and planting trees along reservations of roads, streams, etc. Unlike past approaches to reforestation, the strategy under the PFP was different in many respects. First, reforestation is done in a participatory manner whereby the activities are carried out by the local people themselves with advice from the PFP officials. Second, the



land where reforestation is done (other than homegardens) belongs to the state. These lands are heavily degraded due to burning and chena cultivation. Third, the participants are entitled to receive food coupons calculated at the rate of Rs.104 per working day. The total value of coupons thus issued in respect of one hectare of reforested land over a period of four years amounts to Rs.28,000. Another unique feature is that the farmers have the option of obtaining any commodity (such as tools, cement, fertilizer, clothes, books, etc.) in addition to food by producing the coupons at the designated co-op shop. Also, the trees they establish with the assistance of the Project belong to the people themselves. They have the full right to claim all fruits, fodder, fuelwood and other minor forest products until the trees mature - and when the trees mature, they have the right to extract the timber. The tree tenancy is secured by signing an agreement between the project and the farmer. The agreement shows the boundaries of individual blocks in addition to other clauses with regard to the farmers' rights to remove timber. Trees planted for protective purposes are not expected to be cut down.

The PFP also deploys motivators or catalysts who work very closely with the farmers and try to bridge the gap between officials and farmers. Their primary role is to motivate farmers to plant and manage trees in an organized manner. The inclusion of motivators is an essential component of the PFP, which has to win over the confidence of the local people. This task is considered difficult for the professional forester, who has little training on such aspects of social forestry.

## **FROM FORESTRY TO RURAL DEVELOPMENT**

Settlers in G'ulpatha were organized and introduced to the FD's PFP by the 'catalysts' of the SCOR in collaboration with the officials and the motivators of the FD. The integrated work on the part of PFP and SCOR has not only made participatory reforestation a successful undertaking, but has also resulted in the transformation of forestry interventions into a real process of rural development. Such interventions are basically of four types. First, the collaborative work between the officials of the PFP and those of the SCOR resulted in motivating 9 families to plant homegardens in 1993. Second, reforestation was followed by participatory reforestation of 10 ha of degraded lands around the village in 1994. Under the PFP, the reforestation model is known as farmers' woodlots (FWL). It was agreed by the organization (promoted by SCOR) at G'ulpatha to divide the area among the 26 members of the organization. This included 9 members from resident families in G'ulpatha and 17 others who came from the adjoining villages of Kumbukwewa, Janasirigama, Ratmalgahawewa and Nikawewa. The reason for including outsiders was that all of them had previously been cultivating chenas on the 10 ha of land where the FWL was scheduled to begin. All of them have the right to use these lands. The PFP supplied teak plants at the rate of 400 per farmer (which was sufficient to plant an acre) and also distributed food coupons to the members. It also provided advice on land clearing, planting and maintenance work. The SCOR in the meanwhile worked to strengthen organizational aspects.

The PFP also encouraged the farmers to plant soyabean as an intercrop. Accordingly, the first intercrop of soyabean was planted during 1994/95 Maha season and all 26 farmers participated. However, 10 farmers could not harvest their crop because of the poor quality of seeds used. In addition to planting soyabean within the woodlots, some farmers also planted this crop in their highlands, which led to higher output per farmer.

The SCOR also explored the possibility of developing a link with a commercial organization elsewhere to market the crop. This was necessary because the local traders were prepared to purchase soyabean at only Rs.9 per kg. The SCOR also contributed Rs. 21,875 as seed capital to assist the organization of farmers to purchase soyabean from its members paying spot cash. This strategy helped the members to refrain from selling to traders who paid spot cash but at a lower price.

As a result of the assistance provided by SCOR, the organization at G'ulpatha was able to purchase over 21,000 kg of soyabean including what was produced by farmers as an intercrop under the forest plantation. They sold this quantity to Thripasha Company at Ja Ela at a price of Rs.22 per kg. This enabled the settlement of farmers' dues at the rate of Rs.20.80 per kg. This was done after subtracting all costs such as the loan given by SCOR, transport, handling charges, etc. This arrangement helped to increase the farmers income by Rs.11 per kg compared to the open market price. In addition to granting a higher market margin for the farmers, the sale transaction left a net profit of Rs.24,500 to the organization at G'ulpatha. The income earned from intercropping worked out to about Rs.7,500 per hectare.

Future discussions and collaboration between the top officials of SCOR and PFP resulted in the drawing up of a plan to re-forest more degraded lands around G'ulpatha under the PFP. Re-forestation of this area is very important because this location has several water springs which need to be protected. Moreover, this area is located in the immediate catchment of Huruluwewa. Due to the steep slope of the land, there is a high level of soil erosion, leading to the siltation of the reservoir (IIMI, 1992). Hence, re-forestation of degraded lands in G'ulpatha is very important as far as the protection of the watershed is concerned.

## PEOPLES RESPONSE

Mainly as a result of the participatory efforts of the two projects, there is evidence that the process of rural development gathered momentum at G'ulpatha with the active participation of the people. The organization by itself has evolved several strategies for the undertaking of maintenance work and programmes of protection of the re-forested area. Meetings are held once a month to discuss progress, to identify weak areas and for future planning, and to discuss other aspects of rural development. Weeding the woodlot is undertaken by a women's group within the organization which utilizes labour exchange work. The organization has informed all cattle owners in this village and the surrounding areas about the problem of damage by cattle. *The organization is also planning to take action against the owners of stray cattle under the prevailing law.* Protection of crops and

plantations is done by means of a night watch. For this purpose, it has been decided to erect 24 watch huts. The above activities indicate that the people have transformed the development work initiated by outside agencies into one which is of direct benefit to them.

Another important activity initiated by the people is to utilize the capital accumulated by the organization to provide soft loans to members. Each member was given a loan ranging from Rs.580 to Rs.2,000 at an interest of 2.5% per month. This rate of interest compares well with the market interest rate of 20% per month. The income from interest is a good source of permanent income to the organization. The interest collection per month exceeds Rs.500. The organization has also decided to charge a fine of Rs.1 per day in respect of those members who are unable to pay the monthly interest beginning 6 months from the date of granting the loan. Members have benefitted substantially from the above arrangements. If necessary, the capital accumulated by the organization can be invested in any group activity which would provide a regular income to the organization.

As a result of working together through regular meetings initiated by the organization, a number of other self-help programmes have been initiated paving the way to further social development. The application of the concept of self-help to tasks such as sinking wells, building houses and paddy cultivation, etc. has spread. The farmers have also agreed to undertake an alms-giving to the Buddhist monks at the local temple. Hence, there is now a mechanism not only for undertaking various re-forestation work, but also for the creation of a desirable social atmosphere which is conducive to overall development.

## **FUTURE PROSPECTS AND LIMITATIONS**

The organization has plans for several future activities. First, it plans to convert more degraded lands into productive forests. With the collaboration of the PFP, it has already planted several more hectares of farmers' woodlots. Second, it is planning to establish a nursery for the production of seedlings for the local market. This will be a very useful activity leading to the generation of cash as well as motivating the people to plant trees in G'ulpatha. Also, the people are interested in pursuing various forestry and rural development initiatives already embarked on by them.

Observations indicate that three main factors inhibit the efficient functioning of the organization at G'ulpatha. First, it is necessary to strengthen the organization by way of training members on skills development for strengthening group work including effective financial management. This is necessary to facilitate the recovery of loans and interest and to utilize the money in other income generating activities. It is also necessary to draft a constitution and register the organization. Once the organization is strengthened, it is necessary to develop linkages with other organizations. For these objectives to be realized, it is necessary that the officials are motivated and provided with adequate incentives and training.

There are many practical difficulties which a young organization has to face in the current socio-political context of the country. All activities at present have political implications

and it has been a difficult task to get any work done without resorting to political means. This is not conducive to the long term development of an organization such as the one at G'ulpatha.

## LESSONS FROM THE INTERVENTION

The experience at G'ulpatha teaches several lessons which are important for planning and implementing forestry-based rural development programmes. The main lesson to be drawn is that the careful planning and implementing in respect of one component of the farming system will lead to the development of other components in an integrated manner. Such a process will eventually lead to overall rural development. The experience at G'ulpatha indicates that the approach is not only feasible but that it is also practical. As discussed in this paper, it is essential that the process of planning and implementing should be participatory right from the start. The people will change their ways if they are given an opportunity to participate in planning and implementing the interventions. This case study also helps one to realize the importance of the role of development agencies in bringing about these changes in attitude.

The second lesson is that it is essential that services provided by different agencies be integrated at the local level if the process of rural development is to take place smoothly. It is best if this integration takes place at the level of an organization. However, a young organization finds it extremely difficult to bring about the desired level of integration. Hence, a state organization or an NGO will have to take over the coordination functions from the beginning.

Thirdly, the case study clearly indicates the importance of the catalytic process and the role of catalysts in participatory re-forestation and in the process of rural development in general. The catalysts are an essential link in working with rural people.

The study also indicates the important role played by the profit motive in the success of any organization or of any enterprise. Profits provide effective motivation in the present context. Therefore, even in the sphere of forestry, ways and means of increasing the cash flow in the short-term have to be given adequate consideration especially in the early stages. Such strategies will encourage people to take up forestry-based enterprises. The villagers of G'ulpatha took a keen interest in planting forest trees and intercrops primarily because these activities afforded them an income-generating opportunity in the short-term. Moreover, programmes aimed at conservation alone will not lead to the desired beneficial effects. Interventions where conservation is an integral part of the production process are more likely to be successful. People at G'ulpatha would not have been motivated to plant trees to protect their land and the entire farming system if the interventions were dealing with conservation or protection only. The fact that these interventions contributed to protection in addition to increased production and higher income led to the popularity of the programme.

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It is also seen that it is necessary to support and strengthen user organizations until they develop their own capacity to work independently. Development of organizations is a challenge. In this connection, it is essential that the bureaucracy is re-oriented to prepare itself for the changing needs of a young organization.

Finally, the political objective and government policy on agriculture, trade and industries have a significant impact on the success of any agricultural and rural development programme. Frequent changes in the price of commodities or the import of food commodities can adversely affect local production and farmers' incomes. For example, the import of soyabean for the manufacture of Thripasha (baby food) made it impossible to sell the soya crop harvested in Huruluwewa in 1995 Yala. It was only after explaining to the senior politicians based in Colombo that a decision was made to use locally grown soyabean instead of the imported commodity. Whether the politicians can be convinced all the time and whether they are accessible to farmers are other problems which may have to be considered.

## POLICY AND PROGRAMME IMPLICATIONS

The above pilot experiment shows several policy and programme implications, which are briefly described below.

Sustainability of user organizations involved in natural resource management aimed at integrating conservation concerns with production goals, can be established through a process of institutionalization of the role of such organizations in the rural economy. Such a process of institutionalization of the role of such organizations is very complicated, but important. The forms of participation as well as the machinery for such participation should be internalized. It is a dynamic and an evolutionary process and needs careful planning. The productivity and sustainability of participation should be adjusted to meet the changing requirements of the people. This can be enhanced through progressive expansion of the users' role in the development process. In a small rural agricultural environment such as G'ulpatha, where the small farmers are expected to perform crucial management functions, a rational and profitable institutional framework is necessary to involve these "mini-decision making units" through organizational activity and to sustain such involvement.

The important policy and programme implications emanating from the above case study can be summarized as follows:

- All interventions pertaining to the farming system should be implemented in an integrated manner. An agency at the local level should be designated to co-ordinate all such activities.
- *Integration is relatively workable at local levels. To facilitate integration, it is not necessary to develop a new policy or law or to change existing legislation. The existing policy as well as the legislative framework can be used in this connection.*
- The need for a cadre of well-trained catalysts in respect of all projects/programmes dealing with rural development has to be stressed. It is necessary to extend the participatory policy framework developed for irrigation management to the management of other natural resources such as forests, agriculture and land.

- Integrated action by officials requires a lot of work with a high level of commitment and dedication. Such modes of work are rather exceptional and not commonly found. It is necessary to work out strategies including incentives to motivate officers to change their working styles in favour of the farmers and their organizations. Unless the officials have a high level of motivation, it is likely that the entire exercise will turn out to be futile. It is also necessary to make them accountable to organizations with whom they work. The bureaucratic model is better avoided.
- The organizations should be supported and strengthened by the provision of appropriate advice, training and other necessary facilities. This should not be confined to projects. Some strategy should be developed to continue strengthening the organizations even after the completion of projects.

## CONCLUSIONS

This paper presents a case study where a group of farmers with poor resources was motivated to undertake participatory re-forestation. The activity was facilitated by the integrated action of two projects working in the same area. One project concentrated on technical aspects while the other specialized in institutional aspects including organizing the people into a single unit. The members have been able to launch several income-generating and welfare activities including the building of a capital fund amounting to Rs.24,500. This is in addition to the participatory re-forestation of 10 ha in the first year, with an additional area earmarked for re-forestation during 1995. The entire exercise was done in a participatory manner. Making soft loan facilities available to the members, monthly meetings to review the progress of reforestation and future action of the organization help maintain the interest of all members while at the same time improving the welfare of the people. Promotion of savings, availability of capital, etc. helps in the process of rural development. It is necessary that initial successes are considered as the foundation for a broader rural development programme which should be maintained by introducing other opportunities to increase production and income and to improve conservation and welfare of the farmers in a location similar to G'ulpatha. The strengthening of the farmers' organization should be continued.

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