

3. Case studies in natural resource management

about section 3

This section looks at successful attempts to mobilise women for rural development and analyse the conditions and ingredients for success. The five case studies featured in this section illustrate the current and potential role of women in natural resource conservation, and underline the main reasons for involving women in natural resource management. They have been drawn from different parts of the region, and cover a range of ecological, socio-economic, cultural and technological backgrounds. They provide a useful way of bringing to life the experiences of women's groups working in conservation.

Case study one shows how the initial involvement of Bangladeshi women in their own savings scheme led to the creation of income-generating natural resource projects, such as the Pond Fish Culture Programme.

Case study two describes a wasteland development programme in the semi-arid, drought prone region of southern Rajasthan.

Case study three shows a government-sponsored home garden project in Sri Lanka, that addressed women's need for skill acquisition while training them in natural resource management.

Case study four shows the successful implementation of a community afforestation programme in Uttar Pradesh, India.

Case study five describes how the Aga Khan Rural Support Programme, Pakistan has encouraged rural women to initiate and plan their own development, and provided vital training schemes.

Note: The case studies represent the views of the authors. Minimum editing has been done so that the authentic voice of the authors is preserved.

Using the case studies

The women's organisations discussed in this section are grassroots organisations whose members depend on natural resources for subsistence and who have come together to conserve the resource base. Each of the organisations were formed for very specific reasons, but they all demonstrate a common goal and commitment to conservation. They also have some common needs; for example, the need to access resources, credit systems, and information.

The five case studies serve to:

- illustrate the situations in which women were involved in natural resource management and the nature of their involvement in such activities
- demonstrate how intervention strategies can address constraints to women's participation in conservation without occasioning social and political confrontation
- project a positive image of women's role in natural resource management – a role that is often ignored
- help us to understand the processes involved in mobilising and organising women for resource management and the conflicts that could emerge as a result of such initiatives
- point to the potential of women in enhancing their roles in resource management and in conservation activities
- highlight the impact of recognising the role of women in resource management
- validate some of the new roles undertaken by women in addition to the traditionally accepted ones.

The case studies are not meant to be replicated, or taken as a blueprint for successfully mobilising women, but are intended to provide a basis for discussing practical approaches to involving women in natural resource management.

The following issues from each case could be discussed in small groups:

- an analysis of the project area and in its context, the project, and its objectives
- the process of organising women and the dynamics of group activities
- the nature of women's participation
- the impact on women – both in quantitative and qualitative terms
- the constraints faced by the project – cultural and others
- main lessons learnt from the case study.

After that, the relevance of the case study to the readers own areas of activity can be discussed. A representative set of questions is given at the end of each case study. These should form a basis for understanding the main issues and the practical and replicable aspects of each case. For instance:

- was the central project activity one that was traditionally carried out by women in that area? If not, under what conditions was the new activity introduced?
- what was the nature of constraints encountered by the project? Would these be relevant to your project area, and if so, would the strategies used to address these be applicable to your area?
- what indicators are used in the case study to measure the success of an activity? Are they relevant to your own area?

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Often, it is very difficult to discover whether women are direct beneficiaries of conservation activities. Some of the most common measures used to evaluate success in development activities are direct indicators, such as increases in women's incomes, increases in agricultural output, and sustained conservation. These might be ideal within a certain context, but they are very difficult to measure. 'Proxy' indicators can be practical. They include observation of an improved home environment (for example better clothing for women and children), increased participation of women in social activities, social and political acceptance of women as managers and decision makers, as well as improvements in nutrition resources, the farm and rural environment and an increase in/or demonstration of women's leadership roles and organisational skills.

1 Involving women in natural resource management in Bangladesh

Summary: A Bangladeshi women's organisation that specifically targets poor rural women, has promoted improved access to health, education and training facilities to the women and their families. It has also provided the women with much needed income-generating opportunities, including a successful pond fish culture programme.

Background

Thengamara Mohila Sabuj Sangha (TMSS) is exclusively a women's organisation. It came into being in 1985 following the collapse of a male organisation, Thengamara Sabuj Sangha (TSS) which had been set up to organise the rural poor.

A poor young woman from the same village had over the years become convinced of the need to organise women, as she observed their oppression, the helpless condition of parents over dowry requirements, the precarious situation of the divorced, among other problems.

In the late seventies, she began organising the housewives of the village. The women were advised to save a handful of rice from their requirement to create a fund to be used by them during emergencies. The savings practice was adopted by 20 families. The women were advised to sit together when their husbands were out, to discuss their problems and find ways of solving them. Over the months, the size of savings grew. In 1978, at a meeting attended by 26 women, the organiser explained the purpose and use of savings and discussed their status and their rights in society. Emphasis was placed on the need for solidarity and an organisation of their own. This helped to motivate a large number of women who then started involving themselves in income generating activities by using the fund created out of their savings. This marked the beginning of group formation, the practice of having savings and participating in income generating activities.

To obtain a legal basis for their organisations, the women decided to use the name of the existing TSS. They amended its constitution and renamed it TMSS in 1985.

Initially, TMSS activities were confined to only three villages of Sadar *thana* of Bogra district. Currently the area of operation of the TMSS has been extended to 17 *thanas* and 1, 885 villages of six districts and 3, 302 groups. The total number of group members and beneficiaries is 72, 000 and 30, 534 respectively.

Social context for TMSSs activities

Women in Bangladesh live in an essentially male dominated society with almost negligible decision making powers even in family affairs. Deeply ingrained biases lead to gender-based discrimination and social injustices. Lack of access to education, training and therefore income generating opportunities serve to increase women's vulnerability to exploitation. With a low overall national literacy level of 25 per cent, women's literacy stands even lower, at 11 per cent.

TMSS set out to strengthen the socio-economic status of rural women. Its specific objectives were:

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- to create awareness and combat illiteracy by imparting functional education and human development training
- to emancipate rural disadvantaged women economically
- to reduce inequality between men and women
- to work against oppression and exploitation of women
- to strengthen poor families through helping women
- to utilize the under-utilised local human and material resources.

Activities of TMSS

Activities of TMSS are broadly service and income oriented. Service oriented activities include:

- group formation, changing social attitudes and education for developing awareness
- health education
- mother and child health services
- primary and adult education
- training and skills development
- relief, rehabilitation and promotion of women's human rights.

The income oriented activities are:

- slab latrine making
- sanitary materials manufacture
- poultry and livestock rearing
- nursery raising
- crop production
- fish culture
- loan programme
- production of handicrafts.

Fish culture constitutes one of the main income generating activities.

Organising women for fish culture activities

TMSS works on a group basis. First, the organisation selects a village where it intends to work. A high proportion of rural poor is the main criteria for selecting a village. TMSS has a team of village organisers (VOs), who work at the grassroots level and start by enlisting the poor families of the village. Families satisfying the TMSS criteria are enlisted with girls and women aged between 15 and 60 years being the target beneficiaries. In order to be eligible as TMSS members, women must belong to a specific economic background. Their total family land holding should be less than 50 decimals, no family member should have an income from sedentary labour, total family income should not exceed Tk 25, 000 and the women should have an inclination towards savings activities.

A primary group consists of 10 to 30 women members. Generally, one woman is taken from each family to join a group. Members of a group should be geographically close to each other. During the formative stage of the groups, the VOs make frequent visits to the members and clearly explain the reasons for forming the group to the women.

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The members then start meeting once a week in one of the members houses. They discuss their problems in the meeting and find ways of solving them. Every group has a five member management committee. On joining the group a payment of Tk 5 payment is required. The members are required to contribute Tk 2 per week to their collective group savings fund, which is maintained in a bank. Every group has its representatives who, in case of necessity, can draw money from the bank with written approval from the TMSS. The group members may take a loan from the group's savings fund to undertake income-generating activities.

Following the development of TMSS, women's need for greater solidarity gave birth to larger village wide organisations known as Karmajibi Mahila Shakti. However, the identity of the original smaller group remains intact. The members of the small group automatically become members of the village organisation, which meets once in three months and keep close contact with them including providing support on how the larger organisations should be defined and developed.

Pond fish culture activities

As part of rehabilitation and socio-economic development of oppressed women, TMSS began a pond fish culture programme in 1988. It decided to lease government owned *khas* ponds and disused private ponds in order to increase fish production and improve the protein intake of poor women and their families. The specific objectives of the fish culture programme are:

- to create employment opportunities for TMSS and increase their income
- to increase fish production by bringing the derelict and unused ponds under fish culture
- to expand the horizon of knowledge of the target groups, develop their skills, and introduce a modern approach to fish cultivation.

Since the project began, TMSS has leased 85 ponds of which 17 are *khas* ponds and the rest are privately owned ponds. The lease period varies between three to nine years. Extension of the lease period for the *khas* ponds to 99 years is in process. Fish culture in these leased ponds takes place in two ways. In one, the ponds are leased by the TMSS, that is, the contract is drawn up between TMSS and the pond owners or they are leased directly by the target groups of women. In the former arrangement, TMSS provides all inputs to the TMSS group users, whereas in the latter case, only technical assistance is provided by the TMSS to the group users. TMSS shares costs and profits on the leased ponds with the groups.

The pond fish culture programme has extended to 188 villages of Bogra and Jaipurhat districts. There are altogether 228 groups involved in fish culture with a total membership of 4, 500.

Women participate actively in aspects of pond fish culture and so far 805 women have been given training in different aspects of pond fish culture. The specific areas of training are:

- pond management and development
- pond excavation, re-excavation, preparation and implementation
- nursery pond preparation and management
- integrated fish culture (poultry and fish)
- rice fish integration.

Fertilization, feeding, netting and harvesting are done by the women themselves. TMSS groups have demonstrated the techniques of increasing fingerlings, fertilizing, feeding and so on. The fertilizers in use are cow dung, compost and poultry droppings. Feed used for the pond fish are rice bran,

wheat bran, mustard oil cake, banana leaves, napier grass etc. The participants also raise fries/fingerlings in nursery ponds.

Impact of activities on women

The number of ponds is very low compared to the number of target beneficiaries, thereby reducing the benefit per member. For example, a four-acre pond accommodates 350 members belonging to 10 groups. Therefore TMSS employs women in a number of income generating activities simultaneously. Groups working in fish culture also participate in poultry rearing, vegetable cultivation, sericulture and nursery horticulture.

The benefits of the programme are that:

- women receive training in different aspects of fish culture, including familiarity with semi-intensive methods
- there is a positive contribution to the fish production of the area as well as to the country
- other pond owners are motivated to start pond fish culture following the practices of the TMSS beneficiaries
- the income of the families involved is increased.

It has been estimated that TMSS women could make a net revenue of Tk 37, 202 per hectare in the seasonal ponds and Tk 49, 686 per hectare in the perennial ponds. Per hectare production achieved by the TMSS participants was 2.614 tonnes and 2.879 tonnes for seasonal and perennial ponds respectively. The adoption of a semi-intensive fish culture practice could improve fish farmer's income significantly. Investment in pond fish culture could bring a return of Taka 1.79 for seasonal pond and Taka 2.47 for the perennial ponds.

TMSS documents show that their share of income from fish increased by 10 per cent after adopting semi-intensive fish culture practice. Income from vegetables production through utilization of pond dykes has also increased by 4 per cent.

Following the adoption of the semi-intensive fish culture, local income from fisheries increased from 10 per cent to 20 per cent.

There are also social gains. TMSS target participants' status within the family has increased dramatically because of their increased ability to generate income. The need for women to undertake activities such as heavy earthworks and selling labour is now far less. Increased incomes have enabled them to get houses in the clustered villages. Family disputes and divorce have been minimised.

Identification of constraints

In spite of its success, TMSS is facing some constraints in implementing the programme. At the initial stage male village leaders opposed the formation of the women's group. Religious leaders started interpreting the participation of women in income-generation process as contrary to religious interest and men were advised not to allow their wives to participate in the activities. In many families, wives were physically abused. Some families were penalised in the form of charging fines while some were isolated from the society. TMSS continued its operation despite these hurdles.

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Even today, TMSS workers are frequently attacked if found alone in the street when going to and from work. Workers carrying loan money are often robbed. The movement against participation of females in activities outside the home is gaining momentum. Attempts are being made to publicise opposition to female participation in these activities and the women's use of bicycles and motor bikes is not accepted. Interviews with TMSS personnel reveal that this propaganda is being transmitted by the people involved with the village power structure who realize that women are gradually moving beyond their clutches.

There are still some problems with pond fish culture. Fish farmers still have the tendency to overstock the pond, underfeed the fish and use less fertilizers than are required. Tools for testing water and soil quality are not always available. The most important problem is the absence of a hatchery. Fish farmers buy fingerlings from outsiders without being assured of their quality which affects the fish production significantly. If TMSS can develop a hatchery then it can supply quality fingerlings to the target groups as well as to the other pond owners of the area at the right time according to their demand. Thus, the survival rate of the fingerlings can be improved and production in ponds can be increased. TMSS workers believe that some more motivational work is required to convince fish farmers to use the correct types and quantities of inputs. Financial inputs are also required to ensure this. There may also be a shortage of people with the necessary expertise to help overcome these problems.

Questions for discussion:

1. What was the role of TMSS (at the start of project activities as well as currently) in pond fish culture?
2. What implications does the above have for long-term sustainability of activities?
3. What are the different forms of access that villagers have to ponds and what are the implications of each?
4. What immediate and long term needs of women does the project address?

2 Wasteland development in India

Summary: Four and a half decades of savage deforestation had left the semi-arid desert region of southern Rajasthan devastated and barren, with its inhabitants trapped in a vicious poverty trap. As the situation reached crisis point after three years of drought, an afforestation programme was started, initially on a small scale, involving the supply of saplings to local women. Almost 10 years on, the project has proved to be largely successful, with women acquiring new skills and confidence, in addition to the obvious benefits to the whole community gained from the rejuvenation of previously bare and unfertile common land.

Background

This case study is based on the work of the People's Education and Development Organisation (PEDO), in Bicchiwara block of Dungarpur district, Rajasthan.

Dungarpur district falls in the semi-arid belt of southern Rajasthan. Out of its total population of about 682, 850, 64.4 per cent are Bhil tribals (referred to as *adivasis* hereafter) and 4.4 per cent belong to Scheduled Castes. The average annual rainfall in the district is 762mm, most of which falls during the monsoon months of July and August. The large annual variation in rainfall makes the district drought prone. Historical records indicate the occurrence of several major droughts in this century. The most recent drought from 1985 to 1987 was the worst since 1891.

Until independence, the district was heavily forested. Some of the forests were primarily teak while others were mixed deciduous forests of teak, tendu, dhawra, bamboo and a few other species. During the four and a half decades since independence, the district has witnessed devastating deforestation combined with significant changes in land use patterns.

The predominantly *adivasi* population of Bicchiwara block historically subsisted by a combination of cultivation and food gathering from the forests. Even today, over 80 per cent of the local population depend on agriculture, most of it rain-fed.

Unfortunately, this previously thickly forested area has today been transformed into a moonscape of bare, brown hills with barely a blade of grass on them. Semi-starved, low-grade cattle, with a preponderance of goats and sheep, can be seen searching for food for survival. With the symbiotic relationship between the forests and the local subsistence economy destroyed, a vicious poverty trap has been created. The bared hill slopes brought under the plough lose rich top soil each year. The fields in the valleys are deprived of the rich leaf litter coming down the hills leading to reduced yields. If the rains do not come in time, there are few forests to fall back upon for survival. Many water sources have dried up due to limited recharging of sub-soil water. With less firewood available, precious dung has to be burnt as fuel instead of fertilising the fields. If the crop fails due to inadequate or untimely rainfall, people either have to migrate to other areas in search of work or depend on daily wage work generated through government drought relief programmes. The remaining forests are hacked down further to collect firewood for sale to supplement declining incomes. The traditional subsistence economy is on the verge of collapse with mere survival having become a full-time task.

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Bhil society is strongly patriarchal with a strong preference for the male child. Ownership of all immovable property such as land and housing is vested in men and the only property considered to be women's is their jewellery. There is strong cultural resistance to giving even a part of the family's land to women.

This cultural attitude principally determines women's status in society, leaving them completely dependent on the whims of men, be it father, brother, husband or son. Despite the tradition of bride price, the money is controlled by men. If there is any conflict in the family, the woman has few options to moving out as she owns neither land nor house. She must either find another man to give her shelter or go back to her parent's or brother's house. This is in a context where domestic violence, alcoholism, bigamy and desertion are common among men.

Moreover, the traditional division of labour between men and women binds her more intimately to the natural resource base. It is she who pays the price for environmental degradation by having to walk longer distances in search of firewood, fodder and water. Thus, while having an intrinsic interest in maintaining a healthy natural environment, she finds herself devoid of control over decision making related to management of a basic resource such as land because its ownership is vested with men.

The Origins of PEDO's Work with Local Women

With the commencement of three years of drought (1985 to 1987), the near total collapse of the natural resource-based subsistence economy started to become evident. Its impact on all local people was severe but once again, women appeared to be the worst victims.

Anxiety and physical workloads increased. With migration of men to other areas in search of wages, women were left behind to shoulder men's responsibilities. There was also the added fear that the husband might pick up another woman while away and the possibility of physical abuse by other men due to the husband's absence.

It was clear that none of these problems could be dealt with on an individual basis. Organised and collective action was a prerequisite. This meant seeking women's reflection and involvement in articulating dominant issues confronting them and defining appropriate strategies of action. With this objective in mind, a large *mela* (fair) of women was organised in Mada in April 1987.

Due to considerable discussion on the causes and impact of the prevailing drought, women from several villages who had participated in the *mela*, asked for fuel, fodder and fruit plants for planting on their private lands. Women of three villages asked for assistance in rehabilitating their totally degraded village common lands. Follow-up meetings after the *mela* were held, with hundreds of women participating. PEDO took its first step in involving women in developing both private and common wastelands.

It was decided that PEDO would supply free saplings of the species of the women's choice on the condition that pits for the plants were dug in advance and they undertook to protect the plants after planting. A demand for 30, 000 saplings was received from the women of about 60 villages.

However, after the first monsoon rain of 1987 when the distribution of saplings was started, the demand for plants from women shot up phenomenally. Ultimately, a total of almost 164, 000 saplings were distributed to 602 women spread over 68 villages! In addition, 6, 000 grafted plants of mango and lemon were distributed.

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The large numbers caused considerable confusion resulting in high mortality among the plants. The almost complete failure of the monsoons in 1987 did not help matters. Many women expressed their inability to protect the plants due to having to leave home daily in search of wage work to survive. Hungry cattle roaming in search of anything green made protection even more difficult than usual.

The experience of the drought made women realise the importance of re-establishing vegetative cover on their denuded lands. If provided with some guidance and support, women would come forward in large numbers to plant trees to reduce their problems of fuel and fodder scarcity.

In 1987, discussions on environmental issues during the *mela* prompted women of Ditkon Ka Vela, Bortalav and Baletighati villages to request PEDO's help in rehabilitating their degraded common lands. PEDO agreed to support the efforts of the women's groups of the first two villages that year. By this time, the near impossibility of effective protection of plantations without the community accepting responsibility, had made PEDO realise the importance of involving the community at all stages of its work.

It was in Ditkon Ka Vela and Bortalav that, for the first time, the condition of right-holding families accepting responsibility for protection was made a precondition for the organisation providing assistance for developing common lands. Although initially, people of both villages resisted this concept, the women's group of Ditkon Ka Vela came forward and agreed to contribute a fixed sum from their wages towards building up a village common fund from which payments for protection would be made. The men agreed later.

Tensions Generated by the Focus on Women

At this stage it started becoming evident that the focus on working with women was beginning to generate tension and hostility not only among male villagers but also among PEDO's male staff. The male staff started questioning the objectives of the women's programme. They could see few tangible outputs from it unlike the handpump installation, well-deepening or contour terracing programmes with which they themselves were involved. The women's programme, with its emphasis on group building and eliciting women's total participation, seemed to them to consist of endless meetings with no tangible results. They complained that when they were asked to inform village women about a meeting, the village men wanted to know why they were not being invited. Reports also started coming in of some of the village women being beaten by their husbands when they returned empty-handed from a women's meeting. Due to the prolonged drought, everyone was desperate for even daily wage work. Some men had been permitting their wives to attend the women's meetings in the expectation that the organisation would provide some employment to them. When they returned empty-handed, the men's frustration found release in wife-beating.

They also started realising that although women were the greatest sufferers of environmental degradation and could take the lead in remedial action, the socio-cultural context made them dependent on men's support for taking any initiative. Almost all the private land is owned by men. Very few women are strong enough to assert themselves in deciding how this land should be used. Even some of the women staff, despite their conviction and excitement about the need for better management of their lands, felt unable to see their ideas through unless their husbands agreed.

Similarly, the female staff of PEDO needed the male staff's cooperation and support while working in villages. If the male staff were not convinced about the validity of what the women staff were trying to do, the women had to face yet another obstacle in their already difficult task.

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All this led to the decision to involve men in the process of change. The PEDO's objective was not to create yet another divide between men and women. Instead, the aim was to strengthen women's capabilities to deal with their problems and fight their oppression both individually and collectively. If men were made participants in the process of working towards reducing the burden of their womenfolk, they might cooperate in finding solutions. But if, instead, they felt defensive and threatened, it was likely to result in increased oppression of women. Unless accompanied by a powerful social movement, individual women cannot suddenly challenge men's traditional supremacy in decision-making related to land.

Working with joint groups of men and women on common lands

Taking these developments into account, it was decided to modify the approach and involve men in the programme. In order to reduce men's suspicions and hostility to separate meetings, it was decided that joint meetings of men and women be called in every village. The need for having separate meetings with women would then be explained.

Equal emphasis was given to promoting the development of both private and common wastelands. With experience, however, priority was given to common lands. Initially, the staff felt that it would be easier to motivate people to work on their private lands compared to developing a common resource. However, within a year of trying to work with hundreds of individuals on their landholdings scattered over a vast area and dealing with their suspicions and reluctance to replant on land they had cleared with much effort, the staff started feeling that it would be both easier and more desirable to work on common lands. Questions of equity were also involved. While private wasteland development would only benefit individual owners, development of common lands would assure benefits to all members of the community. This necessitated developing the staff's skills to work with groups and resolving conflicts within groups. Periodic follow-up and review workshops with the staff have been held for this purpose.

It was decided that all rightholding families were to be involved in the group. To make every family feel equally responsible for protection, each family was to be assured a right to an equal share of the produce. Each group had to make a prior commitment to protect the plantation before PEDO was to get involved. Day-to-day management decisions had to be taken by a Managing Committee (MC) elected by the whole group. There had to be at least an equal representation of women on the MC which was to meet regularly every month. Regular meetings of the entire group were also to be held and every effort made to encourage women's participation.

In a training programme in September 1988 it was found that, although women were the worst sufferers of environmental degradation, their lack of land ownership combined with traditional male domination effectively inhibited them from playing a leading role in plantation-related decision making, except in a few villages. Joint meetings of men and women, while successful in reducing male hostility and securing their cooperation, tended to diminish free expression and articulation by women. The need to create a separate forum for women in which they could express their views and concerns, uninhibited by the presence of men, was strongly felt.

At the same time, the 1988 monsoon was exceptionally good, after four to five years of poor rains. This, in itself, had created a new situation. Instead of problems of fodder and water, the women were more preoccupied with getting credit for buying grain seeds for sowing. During this training programme, women talked about the extreme exploitation by local money-lenders. They responded

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enthusiastically to the idea of starting women's savings groups as a long-term measure for getting out of the clutches of money-lenders.

The growth and development of about 30 women's savings groups has been a remarkable phenomenon and demands for assistance in forming new groups are continuing to come in. Surprisingly, there has been no male hostility to this activity being undertaken exclusively by women. The monthly meetings of these groups have also provided the much needed forum for women to get together regularly for a non-threatening, non-controversial purpose. While some of the groups have kept themselves confined to the savings activity, many have taken up several other issues of concern to women. The existence of active women's savings groups in villages, where plantations on common lands have been taken up, has generally facilitated more active participation by local women in their management. In the process, group members have gained confidence in articulating their problems, acting on them and being able to talk even in gatherings where men are present.

A three-day get-together of more than 400 women belonging to various savings and plantation groups was held in May 1990. During the meeting, it became evident that local women's groups had become dynamic entities and a force to reckon with. On several occasions, women group members have demonstrated greater unity and courage than the men. In many villages, women's groups now command a respect from other villagers.

Ditkon Ka Vela

The common land plantation in this village was initiated in 1987 and was the first to be taken up by PEDO at the request of village women. Six women from the village had participated in the women's *mela* in April 1987.

Plantation has been done on 14 acres of *chernot* land on which all villagers have traditional grazing rights. Due to totally unregulated exploitation, nothing except a few stunted trees were left on the land. A family from the adjoining village had started encroaching on the land which seems to have first motivated the villagers to do something to save their common resource. In 1986, the *gram Panchayats* built a stone boundary wall around the land and began planting with government drought relief funds. None of the plants survived, the boundary wall collapsed at several points and the villagers did not receive full payment for the work they had done on the land. It was to replant on this land that the women approached PEDO in April 1987.

Women's role in the process

It is in the above context that women's role in the common land plantation of this village needs to be traced. Some of the landmarks in the process have been:

- in the initial meetings with PEDO's staff, more women than men took part. Although everyone had immediate interest in getting daily wage employment through the project, women were more willing to discuss long-term protection and management questions following discussions during the *mela*
- when PEDO insisted on the condition that all the families give an advance undertaking to protect the plantation after the planting was over, the men, were unwilling to accept this. The women

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agreed and gave an undertaking to contribute a small amount every month to pay for a watchperson's salary for protection

- in the initial Managing Committee (MC) elected by the villagers in July 1987, out of 17 members as many as 10 were women. However, during the following year, there were many objections to women being made members of the MC. During a meeting in June 1991, the number of members was reduced to nine out of which six are women and three are men
- there was always a much higher percentage of women than men doing the earthwork and planting. Women's productivity was always higher than that of men. When it was found that the cost of the physical work was too high due to payment being made on the basis of daily wages instead of output, women willingly accepted self-monitoring of output to ensure the minimum productivity required
- it was the women who took a stand against the family members of local leaders receiving disproportionate employment on the plantation. As a result, the principle of employing only one person from each family was adopted. This has been used in all subsequent plantations
- in February 1988, seven goats belonging to three villagers grazed on many of the plants. On the insistence of the women, all three were made to pay a fine of a total of Rs 130 as per the rules formulated by the MC. This sent the signal that such violations would not be tolerated in the future. Because of this, protection has been excellent since then with a plant survival of 90 to 95 per cent. Today, the originally barren land looks like a healthy young forest with trees of some species 10 to 15 feet tall and a good grass cover on the ground
- in 1987, the first crop of naturally regenerated grass was harvested from the plantation by voluntary labour. One person from each family came to cut it on a day fixed by the group's MC. Most of those who came to harvest the grass were women. During 1988, the increased grass yield was harvested with voluntary labour and sold for Rs 800 which was deposited in the common fund. There was no demand for grass in the village due to heavy cattle mortality during the drought years
- in November 1988, a women's savings group was started in the village. Sixteen women became members and saved a total of Rs 1, 299 within one year. Regular monthly meetings of this group have further strengthened women's participation in the management of the common land plantation. The women's group has also initiated action against the malpractices of LAMPS (Large Area Multipurpose Societies set up by the government for direct marketing of minor forest produce in the tribal areas) and local money lenders
- the women have taken a clear decision that when fuelwood becomes available from the plantation, it will not be sold to outsiders as women have to labour hard to collect it from distant forests.

Initially, whenever an important decision had to be taken during a village meeting, the men would move aside to discuss the matter among themselves and return to the gathering to announce their decision. During the field visit for this case study, in a similar situation, the women also went aside for a similar discussion! In any case, 11 women attended the meeting compared to only nine men. This is akin to the beginning of a new cultural tradition. When asked, the women said that prior to the women's *mela* in April 1987, women had never participated in village decisions. Only the men took these decisions during their meetings. They are happy to be better informed and consider their involvement in village affairs to be a positive development.

Several women of Ditkon Ka Vela have been exposed to the activities of other women's groups through study tours, inter-village visits, *melas* and training programmes. The benefit they have

derived from this is reflected in their increased level of confidence and articulation and in their growing group identity.

Unresolved problems

The village group suffers from the following, yet unresolved, problems:

- a sub-group of about 15 families has not been participating much in the village group
- the common fund of the group has no funds left for paying *chowkidar* (guard) and little monetary return can be expected from the plantation in the near future.

There is considerable variation in women's participation in other common land plantation groups with which PEDO is working. First, it is useful to list the factors common to all the groups:

- at least 75 per cent (in some cases 90 to 100 per cent) of the labour for earth work and planting is provided by women
- where grass has already been harvested, whether through voluntary labour or on the basis of payment, most of the grass cutting has been done by women
- in the future, when firewood starts becoming available for harvesting, even this is likely to be cut primarily by women
- where the initiative for undertaking the plantation was taken by women (eg, at Ditkon Ka Vela, Bortalav, Baletighati, and Bhimsor), they have continued to play a leadership role in subsequent management and protection related decisions. They have often made commitments (such as making contribution to the common fund for protection), which men were unwilling to make, and have honoured them
- women have shown greater initiative in villages where scarcity of firewood and fodder is acute as it is women who suffer hardship in collecting these from distant places.

Beyond this, however, there has been nothing 'automatic' in the extent of women's active participation in the development of village common lands, no matter how acute their hardship of searching for fuel and fodder. Even in the villages where women took the initiative and played a leadership role, this was preceded by enabling them to interact with other women's groups through *melas*, visits, training programmes and awareness generation camps. Continuous interaction with PEDO's women staff has been another crucial input for facilitating women's genuine participation.

Where either the opportunities for exposure or inputs by the female staff have been weak or limited, women's participation in decision making has also remained weak. The tradition of women being assigned a passive role in decision making in non-domestic matters and their isolation are just too powerful for women to break through on their own. In most cases, external catalysts are needed to jolt them out of their passivity and isolation.

But, as evident from women's limited participation in villages such as Wagbole, periodic inputs and exposures are also not enough. What is needed is to help women create their own forum in the villages where they can meet and interact regularly to build up their confidence and develop the capability to work collectively as a group. Initial efforts to create such groups around wasteland development brought forth men's suspicions and hostility as it was a threatening land based activity. Modifying this approach to work with combined groups of men and women proved a set back to women's participation. The majority of women (there are always a few exceptions) feel too inhibited to participate equally in groups where men are also present.

Impact on women

This much needed women's forum has finally emerged in the form of Women's Savings Groups. For the first time, women have been able to find a socially accepted space where they can get together regularly and have access to information on a sustained basis. Given the opportunity to participate in an uninhibited manner in exclusive women's meetings, they are increasingly gaining the confidence to articulate their views even in meetings where men are present. Indirectly, this has increased their genuine participation in the management-related decisions of their common lands. In fact, the pattern which is emerging is that once women are mobilised to act on a particular problem, they leave the men trailing behind in initiative and commitment, sometimes having to drag the men along. This was evident in a few villages when the women decided to take collective action against corrupt LAMPS officials and the exploitative practices of moneylenders. The men were too scared of the repercussions of confronting their exploiters and the women often had to drag their men along as the loans were in the names of men! Another pattern which is emerging is that women tend to be less manipulative in their actions. They are more prone to honouring the commitments they make.

Legal Rights to the Land

Most of the land which the groups have developed is either village *chernot* land or revenue wasteland. In each case, a distinct group of villagers, usually the residents of a hamlet, claim traditional grazing rights which are recognised by other villagers and the *gram Panchayat*. All the groups reached an agreement with the authorities saying that the *Panchayat* has no objection to the group's planting on the land and all rights to the subsequent produce will belong to the group and not to the *Panchayat*.

However, there has been some concern within PEDO about the groups' legal rights to the produce. At present, no one is particularly interested as there is little value on the land. But once there is a good stock of valuable trees, what will happen? Will the Forest Department be able to prevent the members from harvesting the produce under some provisions of the Indian Forest Act? Will the *Panchayat* be able to stake a claim to the produce, as the land is supposed to be under the *Panchayat's* jurisdiction? Most of the *gram Panchayats* cover several villages and if this happens, group members who have protected the plantations with so much effort will get a miniscule share of the returns.

Lessons learnt

Some of the contributing factors to the success (or failure, at times) of the above activities are as follows.

- women were first organised around common problems, which empowered them to question their gender roles and find ways of addressing their needs
- the programme started not as an exclusive natural resource management or forestry programme, but as something more holistic, with a diverse range of inputs, aimed at empowering women's organisations.
- direct action was taken up exclusively with women on land resource management, without sensitivity to gender relations and the gender division in the control over resources. This led to conflicts within the local community

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- while the formation of mixed groups eliminated male suspicion and hostility towards women's groups, women's real participation was prevented by their subordinate position
- forming exclusive groups with women around a seemingly non-threatening activity such as savings, created a legitimate space for women to meet and discuss their problems. Only upon initial acceptance of these groups was land management taken up
- women's confidence-building was facilitated through organising visits to other groups, arranging for awareness creation and training camps and maximising opportunities for interacting with other women who had been through empowering experiences.

Questions for discussion

The following questions could form a basis for discussion on some of the key issues emerging from this case:

1. What were the main constraints to the initial organisational efforts with women?
2. In mixed groups, what were the constraints to women's effective participation and why?
3. How were the above constraints addressed?
4. What are the implications of working with women on common land as opposed to private land?
5. What were women's priorities in the project area and how did these differ from men's?
6. What were the reasons for differences across villages, in the initiatives taken by women and their roles?

3 Agroforestry & home gardens in Sri Lanka

Summary: Through training schemes initiated by a government-sponsored rural development project, young women from the highland region of Nuwara Eliya District learnt how to sustainably manage their home gardens. They were made aware of the positive benefits the use of these techniques could bring, not only to themselves and their families, but to the local community as a whole. They also learnt to appreciate the valuable contribution they could make in helping to preserve the fragile ecological balance of their local environment.

Background

In the upper part of the Kotmale valley, located in the Nuwara Eliya district of the Central Province of Sri Lanka, lies the village of Maathagama, where 20-year-old Kanthi lives with her mother, father and sister. She has the Ordinary Level School Certificate. Her father is a retired government officer who draws a small pension and her mother, Wimalawathie, is the keeper and manager of the 0.3 hectare homestead plot. Kanthi's cousin Deepthi lives in the adjoining village and comes from a similar background.

The area

The Nuwara Eliya District in the Central Province of Sri Lanka covers an area of approximately 170, 450 hectares, varying in altitude from 300m to 2, 500m on the highest peaks. The sources of many of the major rivers of Sri Lanka are in this locality. The project area is located in the Kotmale Division of this District, which is characterised by high mountains and narrow valleys. The area is within the wet upland agro-ecological zone and receives a rainfall of approximately 2, 500mm per year. The area receives rain throughout the year but the majority of it during the south-west monsoon, between May and July. Whereas earlier this area was a land of many mountains springs, the clearing of forest for plantations, and land degradation on the steep slopes has resulted in heavy soil erosion and drying up of many springs and depleting water resources.

The inundation of the major valley as part of the large Mahaweli Ganga Development Project has had an unsettling effect on the physical features, climate, ecology and the human population. Fertile land has been lost and hundreds of families who lived in the lush valley of the Kotmale Oya for centuries have been re-settled in different places upsetting kinship and social patterns. Landslides and slips, due to road construction and the introduction of an unaccustomed large body of water, were frequent during construction. This has aggravated an already sensitive land hunger and land-use problem.

The dominant natural vegetation of the area was Wet Montane forest which once clothed the hills but is now reduced to less than 10 per cent of its original area, and wet grassland, now seen in small pockets. There is also degraded forest and scrubland.

All agriculture is rain-fed and consists of large, state-owned, tea plantations on the steep slopes of the mountains. Their establishment was one of the main causes of soil erosion and water depletion. Some plantations are well managed but others are badly degraded with little top soil. Mixed gardens of approximately one hectare or less per household are found on the slopes of the valleys. These are

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owned by the traditional farmers of the district who have farmed here for generations. The small plots of terraced rice fields owned by these farmers are found on the hill slopes which are watered by the mountain streams.

The mixed home gardens of these central highland villages, often described as the 'Kandyan Forest Gardens', are a type of agriculture that imitates the energy cycle and the tiered canopy structure of the forest. The tall dominant trees, the mid storey perennials, the lower level of shrubs and grasses, the creepers and climbers and the yams underground are cultivated to bring the maximum products while conserving soil fertility, moisture and biodiversity. Birds, bees and insects, fungi and bacteria contribute to this system, which requires no chemical fertilisers and pesticides. Ecologically one of the most balanced agricultural systems in the world, the homegardens have contributed enormously towards soil and biodiversity conservation after the clearing of the highlands for tea plantations. Easily managed by women, they represent centuries of knowledge of the importance of forests. Apart from the forests and the tea plantations, these gardens are the only areas in Kotmale that do not show soil erosion and land degradation.

The wealth of Kotmale came from the fertile valley. The rice fields and the ecologically balanced mixed home gardens yielded all the farmers' needs – spices, coffee, fruits, vegetables and timber trees – as well as income from their sale. But with inflation this income has become insufficient for the whole family. Most of the rural population are farming families with small (0.5 hectares) parcels of wet paddy land and about the same size of (high land) home gardens.

With the inundation of the valley, many of the families were resettled on tea land, some of it degraded. Agriculture is also severely threatened by wild pigs which attack all agricultural plots far away from the homestead.

Small tea plantations of less than one hectare are owned by the resettled farmers and by farmers who grow tea on their small holdings as a cash crop. These tea plots are often poorly managed due to degraded land, ignorance of cultivation practices or lack of finance for the necessary inputs of fertiliser and soil conservation. While they are a source of income to the owners, they are not sustainable in the long term.

Women in the rural farming community

The women of rural farming communities in these areas have several spheres of activity which include responsibility for all household chores, maintaining and managing the homestead (which includes homegardens), tending animals, other employment, and voluntary work.

There is no gender discrimination in this community regarding education. However, gender roles within the home place impose a greater burden on the girl child who wishes to be educated or take up employment, as she has more household obligations than the boys.

Women as natural resource managers

Wimalawathie's garden is the 'forest garden' type and contains a wide variety of trees. Kitul (*Caryota urens*) is a palm whose flower is tapped for its sap. Arecanut (*Areca catechou*) is a slender tall palm, whose nuts are used for the traditional 'chew' of betel leaves nut and lime. Nuts are gathered and may be further processed. Jak (*Artocarpus heterophylla*) is important for the fruit which provides a substantial meal of starch when fully mature. When young, it is a tasty vegetable,

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and when ripe, a delicious sweet fruit. It substitutes for rice and is the life saver of the very poor as the fruit is never sold, but given freely to a neighbour in need. Although a very valuable timber, the cutting down of this tree even in the home garden can only be done with a permit obtained from the authorities on account of its value as a source of food. Breadfruit (*Artocarpus nobilis*), is also a source of starchy food and is eaten as a vegetable. Sapu (*Michelia champaca*) a fast growing timber tree, could be harvested for timber after 25 years of growth.

Coffee, cloves, citrus, and banana are the chief plants of the mid-storey and cardamom, ginger and turmeric form the lowest level. Pepper and betel are vines which creep up the tall trees, and are among the chief income earners. The fruit must be harvested on time, dried and processed if necessary and marketed. Katurumrunnga (*sesbania grandiflora*) and murunga (*moringa oleirera*) used as vegetables are also part of the mid-storey.

Many yams (*Colocasia esculenta*) cassava, and herbs such as cotukola (*hydrocotyla javanica*), mukunuwanna (*alternanthera sesilis*) are grown for home consumption and are at the lowest level of this forest garden.

Gender roles in the home garden

Wimalawathie is the resource manager of the home but decisions on what to grow are taken in varying degrees by all the family. The planting of timber trees and their sale or utilisation is a matter for the men. Wimalawathie must see that there are subsidiary food plants for family consumption and also products for sale.

In case of the kitul palm for example, climbing the palm to get at the flower and tapping the sap is skilled work and is done by men. It may be used fermented as an alcoholic drink or be boiled to be used as treacle or crystallised to form a jaggery which is a substitute for refined sugar. Women process the sap into treacle and jaggery. This is exclusively women's work.

Coffee, cloves and pepper must all be picked, dried and further processed by the women. Wimalawathie must be careful in the processing of all products in order to get an optimum price for them.

The marketing of produce also falls to Wimalawathie. She uses the money to provide for household needs. The garden must yield the income for purchasing the needs of the family as there are no other wages coming in apart from her husband's pension. Rice farming merely provides food until the next harvest.

It is also her responsibility to see that there is adequate nourishment for her family and for this she depends on the home garden for leaves, fruit, yams, vegetables. So she must decide wisely what to plant in the garden to serve this need.

Minor ailments are always treated with herbal potions which are grown in the home garden since the forest which has most medicines is far away. This knowledge is passed down to her children and so down the generations.

Impact of home garden activities

For women, particularly those who do not go out to work, the home garden is a place of great importance. Not only does it provide for the needs of the family, but it gives women status in

providing for the household. The home garden therefore contributes to their economic and social emancipation. Money can be saved after household needs are met. Wimalawathie can give something to her favourite charity, have the bus fare necessary to visit relatives or use the money for any other purpose.

The IRDP project for forestry

The young women in these communities have little interest in involving themselves in the management of home gardens or other traditional activities related to natural resource management. They are instead keen to develop new skills for employment. In this context, the Integrated Rural Development Project (IRDP) was introduced to address women's need for skill acquisition and at the same time increase their role in natural resource management.

The project is a government sponsored, district-wide integrated programme for rural development. In the Nuwara Eliya district, the IRDP Land Use Upgrading Programme has a number of facets *viz* development of agro forestry through development of plant nurseries, upgrading of home gardens and degraded land through agroforestry, sloping agricultural land technology for soil conservation, and improvement of monoculture plantations and degraded land.

Nursery raising activities are carried out exclusively by women, whereas natural resource management and improvement in home gardens is done through a partnership of men and women.

The short term goals of the project were:

- to provide sufficient trees for the agroforestry project
- to help young unemployed women acquire new skills and income
- to enrich the mixed home gardens by introducing improved varieties of trees to increase productivity
- to increase the role of women in the management of natural resources.

Mobilisation for the nursery project

Village meetings were held to which all the families were invited and the scope of the project was explained to them. Volunteers were invited from the young female population. It was explained that they would be given three weeks training in techniques of raising seedlings, bud grafting and other agricultural techniques at the government farm school. On completion of the training they would be assisted with planting material, polythene bags, and fertiliser. Their product would be purchased by IRDP after deducting the cost of the initial inputs.

As word spread about the prospect of skill acquisition and training, the number of girls attending the meetings increased. Kanthi and Deepthi were among the first to go for training. They were taught the basics of soil conservation and fertility, the importance of drainage, contour planting etc. It was during these training sessions that they realised that in maintaining home gardens they were contributing to the conservation of natural resources: they also realised the worth of the knowledge which they had gained from their mothers. They received training in bud grafting, other forms of vegetative reproduction, methods of setting up nurseries and caring for plants, composting vegetable manure, and so on.

Constraints faced by the project

During the process of mobilisation, questions were asked about the rationale for confining the participants to young women and not men. It was explained that such an activity, which does not necessitate going away from home, would be more suitable for young women. On the other hand, tree planting in different areas would be more suitable for men. For the young women, leaving home for the three-week training programme also created some concern; therefore only those who were able to get parental consent were able to participate.

Impact of project activities

Kanthi has raised over 1, 000 budded plants, of which 800 have been already distributed to farmers. A further 250 are now ready for distribution and 250 more have been grafted on to the root stock and will be ready for planting in a few months. Water is not easily accessible on these hill slopes but fortunately for Kanthi the new road which runs just above her homestead is supplied with a roadside water tap. This supplies the needs of her small nursery.

Kanthi has received Rs 6.00 per plant after deductions. From her first batch she earned Rs. 4, 800. She would like to expand her nursery to get a variety of plants and make it financially successful. Even though she has the necessary training there still exist many constraints. For instance, Kanthi can't find sufficient shade-free space for expansion. A quicker disposal of plants that are ready would mean a quicker turnover and provide money to obtain the fresh inputs necessary for the next batch.

Deepthi has a nursery consisting of about 500 citrus plants of both root stock and budded plants. She has already supplied 250 plants to farmers through IRDP to improve their home garden stock or for the agro forestry programme of farmers woodlots. Apart from the citrus she is also experimenting with horticulture on her own. Deepthi has not only received training in Kundasale but has also attended a number of refresher courses and a training programme for livestock care on her own initiative. She is an orphan and lives with relatives who have their own priorities on the 0.3 hectares of land which is their homestead, a part of which is planted with tea. Finding employment by which she can support herself and which she can combine with her nursery activities, is one of her priorities.

At present, both Kanthi and Deepthi are dependent on IRDP to supply all inputs and to market the plants and make payment. They must move on to the next stage of independence from IRDP by using their initiative to get their own stock.

Kanthi, Deepthi and many other young women in the area now appreciate the importance of home gardens, not merely in terms of financial return, but in maintaining the ecological balance of the area.

Lessons learnt

Some of the following lessons have been learnt from the experiences of this project:

- the importance of training in skills which are relevant to the participants' everyday life and which can be practiced, particularly by young girls in their cultural context. These skills can be passed on to others, and be used by separate organisations in other parts of the country

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- this programme was not intentionally designed to improve social and political development. And yet the process of taking part in this activity, in having to develop skills, produce results, handle their own money and being part of a district-wide programme, has had a tremendous influence on the confidence of the girls who were earlier frustrated in their search for jobs and their inability to put their education to use
- so far there has been a certain lack of dynamism in the approach to further development. Initiatives to improve the project would have been assisted by women forming themselves into a society or co-operative.

Questions for discussions

The following questions could form a basis for discussing some of the key issues emerging from this case:

1. What were the main objectives that were addressed by the project activities?
2. What was the wider applicability of these objectives?
3. What were the gender specific constraints encountered and how were they addressed?
4. Did the project use any special knowledge that women have and how were project activities affected by this?
5. What were the priorities of women in the project area and how were these addressed by the project?
6. What specific impact did the project activities have on the short and long term needs and status of women?

4 Community forestry, India

Summary: In response to a growing ecological crisis, a local agency set up 'tree planting camps', which, with the aid of volunteers and local people, have helped to alert villagers to the importance of afforestation. Local women have proved to be much more interested (as well as more successful!) than men in the planting of the trees, their aftercare and indeed the initial choice of species to be planted. The project has not only stimulated a long-term interest in the conservation of their local environment; women have gained the confidence to assert themselves over other important issues affecting their day-to-day lives; common lands have been brought back under control of the village community; and food and fuel shortages have to a large extent been abated.

The area

Uttarkhand is in the northern part of Uttar Pradesh, India's third largest and most populous state. It consists of high Himalayan mountains and is made up of eight hill districts covering an area of 51, 122kms, with a population of 4.8 million people. Uttarkhand is one of the poorest regions in the state and experiences high rates of out-migration. There are vast stretches of barren common lands, which were once under forests but are now unsuitable for agriculture.

Because of this degradation, despite the availability of land, the grazing pressure on Chamoli's forest lands is extremely high. This prevents regeneration of vegetation and leaves the common lands barren. Agriculture is the predominant occupation of Chamoli's people, even though the area under cultivation is small – only 13.2 per cent of the land is sown in the district compared to the state average of 59.9 per cent. Land suitable for agriculture is not only less than in the rest of the state, but is relatively less fertile. The soil is shallow and of poor texture, except in the valleys. With a predominance of cereal crops, agricultural cropping is of a subsistence nature.

Non-agricultural sources of income are few. The manufacturing sector contributes 4.5 per cent to total income and accounts for 3.7 per cent of total employment in all eight districts of Uttarkhand.

Degradation of the environment and the consequential soil erosion are further reducing the fertility of the land and the already meagre returns. Men migrate to the plains in search of jobs and cash, leaving behind the elderly, the women and their children to tend the soil. Women are the backbone of the villages' subsistence economy. In comparison with the state average of 6 per cent, 43.5 per cent of all women in Chamoli are classified as workers, and 95 per cent of women workers are cultivators who do all agricultural work except ploughing.

With the degradation of the environment, the task of the women became more and more difficult. They had to walk at least 10km, three out of every four days for an average of seven hours per day to bring back about 25kg of wood per headload. In addition to this, an extraordinary amount of time was spent in the fields. Due to male migration the male-female ratio in the villages was 1:1.4 for the working age group of 15 to 50 years. During the peak agricultural season, women worked seven hours a day in cultivation and animal husbandry. The amount of energy expended as human labour for fuel and fodder collection averaged two and a half times the amount of human energy spent on cultivation.

People's movement against deforestation: the background

The forest bureaucracy in Uttar Pradesh consistently blamed expanding agriculture and the fuel collection activities of local people and their grazing animals for the extensive deforestation in the region. The local people themselves saw the Forest Department as the plunderer of the region's forest wealth, as large areas of forests in the region were cut down as part of their work plans. The Forest Department was therefore seen as an agency that denied local people access to their neighbouring forests but which readily allocated these same forests to the powerful and wealthy outsiders from the plains. It was in this context that the world-famous Chipko Movement against deforestation was born in the remote hill town of Gopeshwar in Chamoli district.

Another dramatic movement took place in Dungari-Paitoli village where the battle was not only bitter, but which set wife against the husband and mother against son. The Government Horticulture Department negotiated with the male-dominated *Panchayat* (village council) for the acquisition of a nearby community forest in order to set up a potato seed farm. The men were led to believe that the village would in turn receive a motorable road, electricity and a health centre, and that the primary school would be upgraded to a high school. When the women learnt that the forest had been given away by the *Panchayat*, they protested strongly. The destruction of the forest for them would have meant walking at least another 5km every day to fetch fuelwood and fodder. Emboldened by the support they received from the Chipko activists, the women refused to allow the destruction of the forest. After a bitter struggle in which the women were strongly opposed by the men and threatened with arrest by the district administration, the women finally won and the district administration decided not to fell the forest.

The project

In Chamoli, the Dasholi Gram Swarajya Mandal (DGSM), the local agency that had pioneered the Chipko Movement, started to promote village-level industries based on the use of local raw materials. It had a small cottage unit producing turpentine from pine resin, and a saw mill.

DGSM workers began to plant trees in degraded areas with the help of concerned students and held a month-long tree-planting camp above the town of Joshimath. This camp drew the attention of the civic authorities to the increasing deforestation being caused by the military encampment above the town. As a result of their work, the Uttar Pradesh Government set up a committee to investigate the ecological problems around the town. But there was limited involvement of the local population and the survival rates of the trees was poor.

Around that time, there was a landslide near Pakhi village which highlighted for local villagers the consequences of the growing ecological crises. A camp was set up to organise tree planting to help stabilise the landslide. This led to a dialogue with the local villagers, and their subsequent involvement in tree planting. Soon, women also began to participate, and simultaneously the survival rate of the trees planted began to rise. As word of this effort spread, DGSM's contacts began to grow with other villages. The camps became more than tree-planting camps, as villagers began to discuss their other problems of health, roads and the absence of various services. From Pakhi, the afforestation effort spread to Dwing village and then to Bemru village until the DGSM was working with some 250 villages.

DGSM concentrated work in a few micro-catchments of the Alaknanda watershed which had witnessed the worst impact of floods. This watershed, in the upper reaches of the Himalayas, is

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extremely degraded. Every year tonnes of silt from these mountains flows down into the river below, burying fields and houses.

The mobilisation process

The first meeting held with local villagers' participation took place in Bemru and was attended only by men, who did not exhibit much enthusiasm for planting trees. Women soon started coming hesitantly to village meetings. DGSM workers continued to visit neighbouring villagers to convince people of the need to plant trees around their villages, and to slowly build contacts with village elders, women and young men. In many instances it involved repeated visits and much persuasion to interest people in planting trees.

The DGSM's afforestation work gradually spread to other villages. More than 60 village camps were organised in five years and at least 5, 000 villagers participated, the majority women.

DGSM's strategy for involving people in afforestation is multi-pronged. The first step is to spread awareness about the importance and benefits of afforestation. Once people realise the value of trees and evolve a system for community management of the plantation, DGSM then supports the villagers in planting trees on their degraded lands.

The main tool that DGSM uses for education and involvement of the local people is what it calls 'eco-development camps'. On the face of it, these camps are simple two to five-day meetings of some 50 to 300 villagers, students, scientists and social workers who come to undertake community tree plantation work. Really, the camps are the first step to helping local communities gain enough confidence to take control of their lives and of their natural resources. For DGSM, tree planting is a symbol of the integrated development of the environment and of the people dependent on it.

Nearly 75 per cent of participants in the camps are women. Women from many neighbouring villages come to attend these camps, leaving their families and husbands back home. The programme of the camps is divided between discussions on local concerns, planning for the future of the village, and physical work. All participants join to dig pits, plant trees and at times carry stones to build walls. In the evening, everyone participates in songs and prayers.

While creating people's organisations to deal with the task of environmental enrichment, DGSM clearly recognises the role of women in all development work in this region. DGSM has therefore made special efforts to develop women's organisations, known as *Mahila Mangal Dals*. Every village has a Dal which includes women from each family. These organisations have no written constitution but effectively take on the work of afforestation. The members of the local *Mahila Mangal Dal* are the main participants in the camps and often its organisers. Women chair the meetings and put forward their proposals for the development of their village.

Opportunities and constraints

The camps organised by DGSM helped the villagers to gain confidence in themselves, to assert themselves against external interference, and to explore ways within their control that could help to improve their lives. The camps also encouraged the people to set their own priorities.

Instead of building walls around the afforested areas, villagers preferred to build walls around their agricultural fields because of heavy crop losses from marauding wild animals. DGSM was able to

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convince a government agency to use funds available to it under a food-for-work programme to finance building these walls. DGSM gained enormously in credibility with the villagers as it was seen as an organisation responding to their priorities. The walls did not only help to increase agricultural output, but the entire experience led to one significant development. Space was left between the fields and the walls, and trees were planted along this corridor. Long before the trees started giving any returns, grass started growing profusely in the corridors because animals were no longer grazing there. The women were very excited to see all this grass growing next to their fields, reducing the drudgery involved in collecting and carrying the grass from distant forests. This made women very interested in afforestation.

The increased involvement of women highlighted the fact that women were much more interested in afforestation than men. Despite their heavy work burden, women came forward to put in much more work than men in planting and taking care of trees by manuring them and if necessary watering them. Secondly, the initial camps brought out the differences between men and women over the choice of tree species to be planted. While men were more interested in species that would help them meet cash needs, women wanted trees for household needs such as fuel, fodder and fruit. The species to be planted were discussed at the camps and the wishes of the women were given priority. The species that were planted included walnut, soapnut, Himalayan hazel, green oak, mulberry, orange, lemon and several local fodder species.

Saplings are supplied mostly from DGSM's own nurseries, free of charge, to the *Mahila Mangal Dals*.

The *Mahila Mangal Dals* look after the plantations. They regularly water, weed and give manure to the plants. Once or twice every month – usually on the eleventh day of the Hindu month, which is considered auspicious for tending and watering plants – the women gather to work on the plantations.

Land for plantation

The land used for plantation work is chosen by the *Mahila Mangal Dals* and is normally community land, that is, land under the control of the *Panchayats*. Occasionally, even civil land under the Revenue Department, forest land under the Forest Department and, in one case, private land has been chosen.

Unlike other parts of the country where permission is first sought by the agency to plant trees on government lands – which can take many years – the women in Chamoli, backed by DGSM, take up afforestation and management of the land without hindrance by state authority and regulation.

These 'common lands', of which there are vast plots around the villages, were traditionally managed by local communities, and are essential to meeting the biomass needs of the village.

In the case of Dwing village, the land used for afforestation is under the control of the Sericulture Department of the state government. Civil land, under the control of the district magistrate, had been given to this Department and then closed to the villagers, exacerbating their shortage of fuel and fodder. The Sericulture Department then used a mere tenth of the land, making the villagers extremely angry. The *Mahila Mangal Dal*, supported by DGSM planted between 4, 000 and 5, 000 trees in the area.

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If the land chosen is private land, a contract is drawn up specifying that the land and the accruing benefits are for the entire community. In Langi village, the land chosen by the Dal organisation benefited 19 families out of the 21 in the village. The work was started only when the village agreed that all families would have an equal share in the produce from the land.

Community control over distribution

In each village, the *Mahila Mangal Dal* lay down new community control systems for the use of the biomass from planted areas. Equity and control are basic preconditions in the work of the Chipko women, and it is the equal distribution of benefits that has made community afforestation a success. Women have evolved simple ways of sharing the produce from the common lands. While trees take many years to bear fruit, grasses grow quickly and provide valuable fodder. In order to share this fodder equally, particular days were agreed by the *Dal* for one woman from each household to collect grass from the protected area. As the trees are still young, equitable distribution of their produce has yet to be worked out. But in this way, women have already started asserting their right to control the piece of common land which they have jointly enriched and cared for.

In some cases, this assertion by the women's groups has led to conflicts with *Panchayat* leaders over trees planted on panchayat lands. In Bached village there was a clash between the *Mahila Mangal Dal* and the head of the *Panchayat* over the rights to the grass growing on the *Panchayat* land protected by the *Dal*. The police became involved and the women took the matter to the district authorities forcing the *Panchayat* to withdraw the case. The *Panchayat* thus had to informally accept the *Dal's* rights over the afforested *Panchayat* land with regard to distribution of produce.

Impact of project activities

The afforestation work taken up by the Chipko Movement has helped the local communities in many ways. Fuel and fodder shortages have greatly eased and will reduce further as the plantations grow and more land is brought under protection.

An interesting aspect of the Chipko plantations is their high survival rates which in many places are as high as 90 per cent. Walls were essential to protect the seedlings against the high grazing intensity of the area. They were accepted because they protected the interests of the people.

The biggest effect of this people's movement for afforestation is that it has given the women a voice which has started a social transformation in the fabric of Garhwal society. Getting together to plant trees was just the beginning and led to them later getting together to demand drinking water and other basic necessities. In addition, the groups' militancy over the control of forests is growing, whether these be government forests or *Panchayat* forests.

Mahila Mangal Dals are taking control of the existing forest lands near their village, demanding that the local people be given first right of use to the forests in their vicinity. They want forests to be managed not as short-term revenue earners, but on a sustainable basis for meeting basic village needs and for village-based industrial development. In Khalla Mandal, near the town of Gopeshwar, the Forest Corporation was given the contract to cut 333 trees for firewood supply for the towns of Gopeshwar and Chamoli. Only 16 were cut when the local women stopped further felling.

In Gopeshwar town itself, the *Mahila Mangal Dal* has a tough time protecting its forests. These forests, literally the only remaining green space for miles around, perch precariously near the

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growing town. After the formation of Gopeshwar as a township, local agricultural land was taken over by the Government to develop the district headquarters. With deforestation, the problem of fodder for cattle has become acute. Milk must be sold to buy essential consumer items, lowering the nutritional intake of the families. The forest is protected by the women and any local person caught entering the forest is fined by the *Mahila Mangal Dal*. Every day two women take time off from their busy schedules to patrol this forest. The other vital reason for protecting this grove is that it is the only space where women can go for their adulterations without any inhibitions.

In Bached village, the women took over the formal *Van Panchayat*, the village body which controls the village forest land. In village elections, women alleged that the former *sarpanch* (village head) had been illegally cutting the forests, and demanded fresh elections. The district authorities conceded fresh elections and five of the seven positions were won by women – a totally unprecedented development.

Lessons learnt

Some of the factors that have affected the success of the afforestation and conservation efforts in the area were:

- common lands were brought under the control of the village community
- the benefits of protection from the common lands were shared equally. A simple procedure was evolved by the women for distribution of grass resources to ensure equality for all
- the women were able to negotiate with the leaders of the local political bodies that legally controlled the commons for their right to use and manage the land
- the activities were carried out in an area of high rainfall with relatively good soil conditions and high biomass productivity
- it is an area of low population density with a high common lands to private lands ratio
- one of the biggest obstacles faced was the villagers' lack of confidence and their general dependence on the government.

Questions for discussions

The following questions could stimulate discussion on some of the key issues of this case study:

1. What led to the increased involvement of women in the project activities?
2. What has been the impact of project activities on women's lives?
3. What indicators have been used for the above?
4. To what extent have women's priorities been addressed by project activities?

5 The Aga Khan Rural Support Programme in Pakistan

The Aga Khan Rural Support Programme was set up to promote the formation of village level organisations. It has been especially successful in its work with women, who have, for example, been encouraged to set up their own savings scheme, and has created much needed health, education and employment schemes.

The area

The northern regions of Pakistan are characterised by high mountain ranges, where its people live in tough and largely inaccessible areas. This region is made up of the Northern Areas (Gilgit and Baltistan regions) and Chitral District of the North West Frontier Province (NWFP) of Pakistan, and covers an area of about 100, 000km². It has a population of about one million inhabitants of mixed ethnic and religious origin, speaking five different languages.

The women of the northern regions of Pakistan lead a secluded life. Bound by cultural constraints they seldom have the opportunity to leave the village, so their exposure to the outside world is extremely limited. Women's access to health and education facilities is restricted as are job opportunities due to the low literacy rate of 3 per cent. In many villages, women have to walk for miles to fetch drinking water and fuelwood to heat their homes during the severe winter months. Much of women's time is spent on farming and caring for their children. The region has a population growth rate of 3 per cent.

Rural women, in particular, face grave health problems due to lack of doctors and medicines. Also, family planning facilities are not available to the female population, despite an overwhelming demand for this service. Only 30 per cent of villages in Gilgit and Baltistan have ready access to clean drinking water. The number of villages with adequate sanitation systems is even lower. This is a major factor contributing to frequent outbreaks of disease and the generally poor health status of women and children.

The project

The aim of the Aga Khan Rural Support Programme (AKRSP) was to encourage and support the formation of village level organisations, which would act as a forum for village level development; a system that would replace the old princely administration at the village level and ultimately complement government efforts in all fields. AKRSP's objective was to involve village communities in planning for and undertaking their own development, with the Village Organisations acting as a democratic platform and a conduit for this purpose.

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The nature of support offered by AKRSP can best be captured in the three basic principles of the Programme, which are:

- organisation
- capital
- skills.

These principles have been a means of assisting the people of the Northern Areas and Chitral District to improve their livelihoods by forming organisations, building capacity through skill development programmes and depositing regular savings which gives them access to loans.

The present area covered by the AKRSP is 74, 000km², (71 per cent of the 2, 000 villages in the region). Today there are more than 2, 000 village organisations (VOs) in AKRSP's Programme Area (with larger villages having more than one VO). Of these, 674 are exclusively Women's Organisations (WOs). The total membership of both VOs and WO is 96, 409, with WO membership totalling 23, 000.

The projects in which women are involved largely concentrate on providing the necessary skills and inputs to increase farm output. Women are being trained in improved methods of cultivating vegetables and are provided with vegetable seeds.

Women are setting up private fruit and forest nurseries to earn income. About 100 private nurseries have been set up by women and nearly 150 are collective ventures. They are also making use of appropriate technology items introduced by the Programme, which target labour intensive activities in order to reduce women's heavy workload. The most successful of these items has been sulphur tents, which are used for drying apricots, a speciality of the region. The women are running small hatcheries and learning the technicalities of producing vegetable seeds.

Under the WO Credit Programme, around 80 WOs are also using their savings to offer simple bank services, ie, the AKRSP provides lump sum loans to WOs, with their savings being held in WO accounts as collateral. This money is then lent by the WO Bank (based in the village) to individual WO members. Apart from the village banking system, women are also taking small loans directly from the Programme, investing mainly in buying agricultural items.

As is the case with VOs, the WO forum has provided an opportunity for local leaders or activists to develop. All WOs have women presidents, with a few of them also having women managers. These office bearers are responsible for the smooth functioning of their WOs. This has provided women with the opportunity to discuss their demands. Educated women managers have often proved to be tough customers. However, most WO managers are still male, due to the limited number of educated women available to take up these positions

The Aga Khan Rural Support Programme has been successful in supporting villagers to create and run their Organisations. With the passage of time, these organisations are taking on increasing responsibilities independent of AKRSP. The survival of the Village and Women's Organisations is a sign of the strength of the women's capacity which AKRSP has encouraged them to develop.

Many of the WOs deal not only with projects specific to the AKRSP but are becoming increasingly active in linking up with agencies that provide other services such as primarily social sector services. The Aga Khan Health Services, Pakistan (AKHSP), for example, works exclusively through Women's Organisations to implement their Maternal and Child Care programme. They have also assisted a cluster of 13 villages in setting up a health centre in their valley. This Programme seeks to provide health, education, sanitation and drinking water supply facilities to village

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communities through devolution of certain responsibilities to VOs and WOs. The government's initiative to work through VOs and WOs is a major step not only for this region but for the country as a whole.

The process of mobilisation

AKRSP's ability to meet the needs of small farmers has been the main reason for its success. The fact that the AKRSP has been able to reach thousands of rural households, coupled with the fact that rural populations themselves have ready access to AKRSP's support is in itself a commendable achievement. AKRSP's emphasis on supporting VOs and WOs in the productive sector, ie, in providing improved agricultural inputs and related skills as well as credit, has led to the creation of a cadre of village level 'specialists' in the natural resource management field.

In a remote area like the northern regions of Pakistan, it is encouraging to see that women are coming forward and forming organisations, and that they are playing a more active role in the development of their villages. This they are able to achieve through being members of WOs, through regular meetings of these organisations, through saving money, and through micro-level planning.

Working with rural women has been a challenging task for AKRSP. Bearing in mind the constraints within which the programme must work it is a considerable achievement that today there are 674 WOs in AKRSP's area of operation.

AKRSP's approach has been to invest in building the capacity of the local people at the village level. Village women have been trained in the natural resource management fields, ie, poultry rearing and disease control, vegetable cultivation, forestry, livestock, vegetable seed production. This cadre of village specialists provides services to other members of WOs and are remunerated by WO members for these services.

Constraints faced during the project

Despite being members of WOs, the women of the region are still not fully in charge of making decisions that would affect their lives. AKRSP first needs 'permission' from the menfolk of a village before approaching the women. In existing WOs, women often have to confirm their decisions with the men before embarking on a project. In the field of credit, although it has been a major step for women to understand credit and to have their own money, this money is often handled by village men. Similarly, women who take loans to purchase inputs or those who wish to market their farm produce, still depend heavily on the men for assistance.

One of the constraints faced is the lack of well-educated women in the region. This problem is particularly grave when seeking technical and senior management staff, or other levels of employees.

The Women in Development section of the AKRSP is often compelled to give field-based training due to constraints on women's mobility. This requires additional resources, plus the time spent reaching remote areas on rough roads.

Impact of project

Over a period of 10 years there has been a total increase of 6 per cent in cultivated land area, with an increase of more than 100 per cent of land used for vegetable cultivation. The land has been developed through construction of water channels built by the village organisations. Most households are consuming more vegetables than they did before and some are now earning income through the sale of vegetables in local markets.

Poultry is also increasingly becoming the main source of meat, partly due to WO members having been trained in poultry disease control and improved management practices. Ten years ago the average number of poultry birds per farm was about five. This number has increased to 12.3, a 141 per cent increase.

Real *per capita* incomes in the region show a 94 per cent increase since the inception of the Aga Khan Rural Support Programme, compared with a 25.7 per cent increase for the rest of Pakistan. This growth essentially reflects the fast changing nature of the local economy and the people's ability to keep up with this change through support offered by the AKRSP. The total savings of the existing 2, 000 village organisations is Rs 1, 64.7 million, of which the WOs have saved Rs 23 million.

For the women of this region it has been a slower process, although the nature of the changes have had a greater impact on the lives of women. For women to be able to sit and discuss their problems in the WO forum is in itself an achievement. Members of WOs see their savings as the most significant change in their lives. They say it has given them better status in the home and the village. More importantly, the local organisations have provided women the opportunity to discuss their needs and demands, and to develop through the adoption of new roles, specially leadership roles.

Lessons learnt

- AKRSP's mandate was to set up a network of village level institutions which would act as a body responsible for grassroots development; this is perhaps the greatest lesson learnt. This large village level network of women's and men's organisations has provided a sense of cohesion to activities undertaken by villages of northern Pakistan. Villagers capacity to plan and to execute their plans in a democratic manner has been the strength of these organisations
- the 'development partnership' that AKRSP offered to people gave them the confidence to tackle many of their problems on their own, proving that local initiative exists if given opportunities and support in the form of skills, capital and infrastructure. Most village organisations now have a working capital from common savings.

Questions for discussion

1. What has been the main factor responsible for the success of the project?
2. What immediate and long term need of women did the project address?
3. What role did AKRSP play and what implications did this have for the success of the project?
4. What was the main gender-specific cultural constraint faced by the project?
5. What indicators have been used for the success of the project?

What can we learn from the case studies?

The case studies demonstrate the key role that local communities, and especially women, can play in environmental conservation. With formal organisations, this role can be recognised, enhanced and their productivity increased. Local communities are able to recognise the links between resource degradation and their own lives in terms of agricultural productivity, food availability, income and employment and their own labour input. For women especially, the case studies show the links between resource access/management and their own status.

The following issues are demonstrated in the studies:

- the total involvement of community members (in all respects) has a crucial role to play in environmental conservation, without which the effectiveness of conservation activities is most likely to be undermined
- women have particular potential for group conservation, not only because they are often the main victims of environmental degradation, but because such efforts have also addressed key issues of empowerment and access to resources for women
- activities involving women around resource management often require the creation of specific local organisations, distinct from existing structures. The cases of AKRSP, Chipko and TMSS demonstrate this
- employment or income generation is usually an effective way of mobilising local women, as immediate benefits can be combined with long-term benefits. Conservation alone may not be enough of a motivating factor to mobilise women and sustain their interest. Activities may therefore have to address some primary need of the women/community in order to stimulate interest
- involving women in resource conservation activities goes far beyond the environmental implications, affecting the social, economic and political status of women. For example, control over a productive asset by a local women's organisation increases women's bargaining power and may bring about changes in intra-family and intra-community dynamics
- acceptability of women's groups at the community and the individual family level is greater when there are tangible financial and/or environmental benefits from their activities
- when working with common resources, either the entire community should be involved in its management and have control, or there should be a homogeneous section of the community that gains control over the collective resource. In the case of a heterogeneous group, intra-group dynamics and clash of interests are likely to adversely affect the flow and outcome of the activities. The problems faced by PEDO and TMSS arose precisely out of such a conflict
- local level women's organisations can become more credible and effective through institutional links with local bodies which are acknowledged by the community as structures of power
- local communities or organisations need a range of diverse inputs other than financial ones. Training in technical aspects, the development of managerial skills including accounting expertise and marketing abilities are imperative for long term sustainability of activities. Thus project activities should include an equal focus on human resource development as on achieving physical objectives
- women can work exclusively or collectively with men, complementing each other to achieve a common goal. The case of Chipko demonstrated that women need not necessarily work in isolation in order to be effective. The most appropriate mechanism of mobilising women would depend on the local social, cultural and economic conditions.

Replication of the case studies

In considering whether these case studies can be replicated, it is important to recognise the great variety of ecological zones, group constitutions, social, cultural and economic backgrounds. These factors mean that it is impossible to use any of the case studies as a blueprint for success. Women worldwide may have parallel problems and aspirations, but all live under very diverse conditions. This must be considered when planning for development activities. It does not however, prevent cautious use of the case study experience as relevant background information for planning purposes.

What is more important is to use the core elements of success in the process of planning and intervention. For example, the demonstrated respect of cultural norms as a core element of success should be practiced within each cultural setting. Another core element is the need to recognise and place within the right perspective women's role within the social and economic system. All over the developing world, there have been many instances where women's workload, and even marital problems have been made worse through efforts to bring them into the mainstream of social and economic activity. Instead of replicating a particular group, other organisations should seek to emulate the spirit of the group and ask key questions in order to draw from their experience. For example:

- what process did they follow?
- how did they get together?
- what were the triggering factors?
- how have they shared their workload?
- how have they maintained group cohesion and achieved their common goals?

Most importantly, it is important to remember that knowledge of successful experiences is not enough by itself. Detailed knowledge of the women's social and economic setting, and their needs and problems, is a key element for success and is integral to any attempt to draw lessons from the case studies provided.

Exercises

These two exercises may be used to stimulate discussion. They should be adapted as appropriate.

EXERCISE 10

Indicators of Success

This exercise is designed to help participants identify, describe and assess different indicators for measuring the success of development activities.

Divide the participants into groups of three or four people. Allow each group sufficient time to work through the case study chosen and to discuss and answer the following questions:

1. What indicators are used in this case study to measure the success of the activity?

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2. What type of indicators are they (qualitative, quantitative, or proxy measures)?
3. How might these indicators be relevant to the area you are working in?

Ask a spokesperson from each group to report back on their discussions. Compile an overall list of the indicators identified, and discuss how they could be measured in practice.

EXERCISE 11

Recognising women's roles

This exercise is designed to help participants identify the special role of women in resource use and management. Once the different roles of women and men are better understood, the formulation of plans for community management may be more effective.

Divide the participants into small groups of three or four and allocate a case study to each group. Allow each group sufficient time to work through their case study and to discuss and answer the following questions:

1. Which decisions about resources are made by women and which by men?
2. Which activities were undertaken by women and which by men?
3. How much knowledge of resources do women have? What was well known by men?

Examine the case study for ways in which the special knowledge of women has been used to formulate and implement this case study's activities.

4. How has women's use of this knowledge affected the project's success?

Ask a spokesperson from each group to report back on the discussions.