



Forest management partnerships: Regenerating India's forests

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Recent experiences in West Bengal, Haryana, Gujarat, Orissa, and Jammu and Kashmir have shown that when government forest staff collaborate meaningfully with the rural communities, management problems can be overcome in the interest of all. Instead of being progressively degraded through overgrazing and cutting, forest lands can begin to regenerate dramatically. As the trees recover; so too does overall forest productivity, generating fodder grasses, fuelwood and other forest products that are crucial in the socio-economic context of an agrarian society. This article presents experiences from West Bengal and Gujarat where foresters and forest administrators as well the non governmental organizations and researchers are exploring ways to bring the forest departments and local communities of India together in the management of public forest lands.

[Sal \(Shorea robusta\) forest in southwestern Bengal degraded by heavy grazing and cutting](#)

Since the middle of the nineteenth century, large areas of forest land throughout the Indian subcontinent have been declared public lands and placed under the exclusive management of state forest departments. In the process, traditional management systems and the usufruct rights of millions of rural inhabitants throughout India have been eroded. By 1980, nearly 23 percent of India's land had been placed under state management, leaving an estimated 300 million rural resource users with few rights or responsibilities for forest use and protection. This led to a direct confrontation between vested commercial interests, on one side, and the local communities on the other. Disagreements over management priorities led to unsustainable patterns of forest exploitation and the accelerating degradation of India's vast forests.

By the 1970s, it is estimated that India was losing more than one million ha of forest land annually as a result of commercial exploitation and growing local pressures. It became increasingly apparent to national planners and forest managers that formal forest policies and management procedures were not responding effectively to rural resource needs. As a partial response, the Indian Government initiated a massive farm and community forestry programme. However, these activities did not deal with the challenges of natural forest management. Fortunately, in a number of Indian states, concern over environmental degradation and growing resource scarcity has spurred some communities and forest departments to begin informal experiments with participatory management of public forest lands. Often with little or no budget, villages and forestry field staff were able to control

access, thereby relieving pressure on natural forests and allowing disturbed ecosystems to begin regenerating naturally. While a diverse and growing range of community forest protection activities can be found in India, this article examines the experiences in West Bengal and Gujarat, where active Forest Department support has encouraged and accelerated the work of participating communities.

Experiences from West Bengal

Over the past decade, the West Bengal Forest Department has worked with thousands of tribal and other communities to establish local management systems for the protection and regeneration of degraded natural forests throughout the southwestern part of the state. More than 2000 rural communities currently look after 250000 ha of natural sal forest, which has produced luxuriant growth since the villagers began controlling grazing, fuelwood cutting and forest fires (see Map). Regenerating forests now provide a wide variety of medicinal, fibre, fodder, fuel and food products for participating rural communities.

The emergence of joint management systems: 1972-1984

In 1970, the atmosphere in southwest Bengal was tense. Poor tribal people were rapidly exploiting the sal forests while the Forest Department sought police assistance to protect the remaining forest stands. In addition to the spontaneous cutting, many people from communities in the area were being hired by contractors to cut fuelwood, thereby further accelerating deforestation.

In 1972, a new district forest officer (DFO) was appointed for the Purulia District, West Bengal. Initially, he worked with the local police officers to raid villages and local fuelwood market centres and arrest fuelwood cutters. While this pressure was applied, illegal cutting activities slowed, but they resurfaced as soon as the authorities' attention was diverted elsewhere. Realizing that force was not a solution to deforestation, the DFO began working with his field staff to initiate discussions with forest communities. At village meetings, he reviewed the problems of deforestation and suggested that the communities take on protection responsibilities in return for a share of the fuelwood and other forest products. Over a period of three years, 25 forest protection committees were formed in Purulia District; however, the district officer did not have the authority to formalize the partnership.

In another part of southwestern Bengal, at a small forest research site at Arabari, experiments were being conducted with native sal (*Shorea robusta*), teak, eucalyptus and other timber species. The trials were constantly being disrupted by villagers cutting fuelwood and grazing their cattle on the experimental plots. In frustration, the forest officer began meeting with the people of the ten villages surrounding Arabari. Initially, he offered the villagers employment in plantation work in return for an agreement to stop grazing and cutting on the research site. Faced with limited budget and employment opportunities, he later revised the arrangement, promising them 25 percent of the sal timber and rights to all non - timber forest products. This agreement appealed to the villagers and they ceased their grazing and felling and began protecting the forest from outsiders.

While the joint management agreements developed in Arabari and Purulia in the mid-1970s were successful, for the next ten years they remained isolated cases. Although a number of other similar efforts followed, the agreements were informal and generally had little validity beyond the term of the individual forest officer, who was usually rotated to a new area every three years.

Informal expansion: 1985-1989

In 1986, the forestry officer who had initiated the joint management experiment in Purulia in

the early 1970s was appointed conservator of forests for the southwestern region of West Bengal. He quickly began urging his divisional forest officers to encourage the field staff to work with the local forest communities.

To accelerate the formation of local community management groups or forest protection committees (FPCs), the conservator initiated a system of monitoring local officers and gave awards to those who were most successful. Local political and *panchayat* leaders were also informed of the department's new strategy and began sending supportive messages to communities. The several dozen FPCs existing in 1985 increased to 1300 in 1988 throughout Midnapore, Bankura and Purulia districts, covering 152000 ha of forest land.

Case-study: Chingra Forest Protection Committee

Ten villages surround the Chingra Mouza forest in Midnapore district in southwestern Bengal, near the border of Orissa and Bihar. A century ago, the Munda tribal community of Chingra was surrounded by dense sal (*Shorea robusta*) forest, with trees more than a metre in diameter.

The region was sparsely settled and there was little pressure on the forest. Occasionally, trees were felled to construct roof frames, to make ploughs and axe handles or serve other domestic needs; however, this had a negligible effect on forest density. The villagers collected many products from the forest, which was particularly important as a source of supplementary food. The forest also sheltered the community from harsh winds, storms and summer heat as well as conserving its water.

During the first half of the twentieth century the forests of southwestern Bengal were gradually logged to provide wooden sleepers for India's expanding rail lines. When cut, however, sal produce healthy coppice growth which grows into new trees. Throughout the 1960s and 1970s the Forest Department leased cutting rights to this new growth to contractors who used village labour for logging in the area. The area's growing rural population also found fuelwood cutting a convenient way to generate additional household income. During the droughts of 1981-82, the monsoon rice crops failed and desperate villagers from communities throughout the area attacked the remaining sal forests in great numbers, both to procure fuelwood for selling and to create areas suitable for grazing. The cattle and goats consumed or trampled the young sal shoots as they emerged and the root systems began to die. The exposed forest floor gradually lost its topsoil through water and wind erosion.

[Area under forest protection committee management in southwestern Bengal](#)

The young people of Chingra were aware of the deteriorating state of their environment and of the value of the forests. They had often heard stories from the old people about the beautiful forest that had once surrounded the community and the many things it had produced. In 1984 one youth, named Mahadev Munda Singh, approached the local forester and asked if he could re-establish a little eucalyptus plantation within the forest area. The forester allocated a small amount of department funds with which Mahadev started a nursery. His friends helped him plant the seedlings. He encouraged ten members of the village youth club to join him in protecting the young trees. As the trees grew, they saw that the sal trees and other plants in the forest also began to grow rapidly.

The youth club asked the forester to place an additional 50 ha of natural sal forest under its protection, requesting a 50 percent share of the produce to support its activities, and the forester agreed. The sal, too, began to regenerate. The group gradually began extending its protection activities to the entire 450 ha of reserve forest adjacent to the village. When people from surrounding communities came to cut firewood the boys would try to explain the need to protect the forest and how it could meet their needs better if they would allow it to regain its

health. They convinced their own families not to let cattle graze in the protected forest and chased away cattle from the other villages. After three months the regenerating young sal shoots had grown to 1.2 m or more in height and were above the reach of the smaller cattle.

[Naturally regenerating sal \(*Shorea robusta*\) after two years of protection by a community management group in south western Bengal](#)

Seeing the success of the Chingra group, people from other villages began thinking of protecting forests near their own communities, and the local forest officer began holding meetings with villagers to encourage them. At each meeting he invited Mahadev and his friends to talk about their activities and their hopes for forest regeneration. By 1988, nine of the ten communities surrounding Chingra forests were protecting the forest, and the sal had reached a height of 4 to 6 m. A dense undergrowth of climbing vines, shrubs, grasses and small palms emerged.

Many intervillage meetings have been held over the past three years to work out agreements, settle disputes, repulse outside users, determine territorial protection responsibilities and establish usufruct rights among participating communities.

The Chingra case reflects the decentralized nature of FPC group formation. It also illustrates the way in which village leaders like Mahadev were able to work with field staff and other neighbouring communities to select forest areas for protection and reach agreements as well as turning away outsider users. While forestry field staff helped facilitate this process by encouraging group meetings and authorizing community protection activities, successful FPCs frequently took the initiative in organizing themselves and establishing operational controls over forest access. As each community began protection activities, it influenced the behaviour of neighbouring villages. Villages negotiated and discussed management issues and needs with one another, without necessarily waiting for the forest department to take action. It is this community-based "chain reaction" or catalytic effect that is the driving force behind the rapid emergence of localized access controls on state forest lands in southwestern Bengal. It is likely that, if they are initiated by state forest departments, similar community concern for environmental degradation in other parts of India could provide effective support for joint management programmes.

Experiences from Gujarat

Southeastern Gujarat, populated by diverse tribal communities, was covered with good teak forests until a few decades ago. During the early 1980s, in addition to official cutting by the Forest Department, illegal logging operations using tribal labour expanded rapidly. Seeing the rapid commercial exploitation of the forest by outsiders, the Bhil, Chowdhury, Gamit and Vasava tribal villages, which had utilized surrounding forests sustainably in the past, entered the race to extract income from the forest. In addition to the legal and illegal timber concessions, an estimated 10000 tribal villagers entered the commercial fuelwood cutting sector, further accelerating forest degradation. The Forest Department attempted to control illegal activities but its personnel were heavily outnumbered. Furthermore, because of its own emphasis on logging during the early 1980s, the department's past behaviour contradicted its conservation message.

[A forester and a tribal leader In a sal forest which is being regenerated under joint management](#)

In 1986, a five-year ban on logging in all reserve and protected forest land was imposed by the government. After ceasing their own logging operations, forestry staff in the Southern Circle cracked down on illegal operators, arresting 11000 people between 1986 and 1987 and impounding 130 vehicles. Efforts to change forest exploitation patterns, however, met with

resistance from the local forest labour cooperatives whose livelihoods depended on logging operations, and tensions with tribal communities rose dramatically.

The Southern Circle conservator mounted a massive campaign to encourage tribal communities to conserve and manage forest resources. The conservator and other senior officers worked with tribal leaders to reach a consensus on the importance of forest protection and develop economic strategies to replace lost income. A series of educational camps and negotiations were held, with up to 5000 people attending. Four hundred tribal leaders were identified and asked to help carry the message to their communities. At the same time, the conservator realized that effective community participation would need to be based on clear agreements and working relationships.

Under the current implementation procedure, at the first meetings the forestry staff and villagers discuss the problems of deforestation and the effects of fuelwood and fodder availability, soil erosion and moisture loss. Under the regeneration programme, if the village forms a committee or Vana Samrakshan, Samiti (VSS) and protects the degraded forest, it can share in proceeds from the regrowth. Participating villages are generally given 25 to 100 ha to manage. Where the total forest area is large, villages start with one forest block, taking on responsibility for additional tracts of degraded forest in subsequent years. The VSS, comprising one member from every family in the village, is responsible for organizing regular patrol by its members on a rotational basis, involving all village families. Patrolling activities are intended to instil in participating families a sense of involvement in the protection and proprietorship of the products.

In degraded forest areas, VSS members have first rights to employment in cleaning brush from the area and cutting deformed coppice growth. These activities generate approximately half a tonne of firewood per hectare, all of which is given to VSS members. They are also given all the small timber from the annual thinning of the coppice shoots from the teak. In blank areas within the regenerating forest, representing approximately 10 percent of the total area, *mahua*, bamboo, *ber* and other species of importance to the villagers are planted. Where funds are available, the Forest Department also provides seedlings for farm forestry activities and energy-saving devices like improved cooking stoves and gobar gas generators (which produce methane gas from dung).

The Government of Gujarat has recently given official approval to the programme, providing funding for project expansion and entitling participating VSS to a 25 - percent share of teak timber on maturity, in addition to free fuelwood and timber for subsistence use. The programme also entices participating communities to all non-timber forest products, including fodder grasses, dry fuel, fruits, gums, seeds and leaves. One of the first communities to participate in the programme was Gamtalao Khurd.

Case-study: Gamtalao Village

Gamtalao village is located in the eastern Surat district. The village comprises 88 households, all of which are members of the Chowdhury tribe. The terrain is undulating with forest land located on rolling hills and agricultural fields in low - lying plains. Farm holdings average 1.7 ha per household. Of the 280 ha of land in the village, one-half is government forest land. Twenty years ago, the forest land was covered with dense stands of teak, khair (*Acacia catechu*), *mahua* (*Madhuca* spp.), bamboo and other local species. Between 1978 and 1981, however, the Forest Department logged the area, removing all large commercially valuable trees. After the logging, villagers removed debris and brush for firewood and allowed their cattle to graze on the hills. The end result was the progressive denudation of the hills and accelerated soil loss, especially during the monsoon. During the early 1980s, the Forest Department attempted to replant the logged land with eucalyptus but reforestation efforts generally failed after the third year because of grazing pressures and the hacking of saplings for fuelwood.

In 1987, the department began another attempt to replant the degraded forest land in Gamtalao village with *Acacia auriculiformis*. However, after visiting the site, the Circle conservator realized that the villagers had little interest in the acacia species. Moreover, he noticed that the teak root stock was still in healthy condition, with more than 2000 stumps per hectare, and could coppice well. The conservator and his staff organized a series of meetings with the villagers in early 1988 and suggested a management partnership. He told them that the teak would grow quickly if grazing and cutting on the forest land was stopped. He pointed out that they could still cut most of the coppice growth but that they should leave the healthiest shoot on each stump to grow into a pole. In this way the villagers would not lose much firewood and could still regenerate the forest.

[Changing land use patterns in Gamtalao village](#)

The villagers felt the conservator's offer made sense. Since they had joined a dairy cooperative scheme they were shifting to stall feeding of water buffaloes to increase their milk production. They had been leasing fodder cutting rights to land located some distance from the village and found it inconvenient to walk so far. The conservator informed them that, with protection activities, they could increase grass and fodder leaf production from the neighbouring forest land. This was an added incentive to the villagers who, in the light of these discussions, decided to form a forest protection committee (Samiti) in 1988, initially protecting 25 ha of forest land. In 1989 an additional 60 ha were included, followed by another 20 ha in 1989. The neighbouring village of Phulbari, seeing the successful regeneration in Gamtalao, has also requested a tract of forest land to protect near the village.

Since the forest land came under community protection in 1988, the teak coppice growth has been rapid and now measures 4 to 5 m in height (see Fig.). In addition, with help from the Forest Department, the villagers have planted bamboo, *mahua*, *hardu*, *kalam*, *bera*, *imli* and other local, multipurpose species in the gaps between the teak. Most of the planting has been done through direct seeding, resulting in good survival rates and rapid growth. In particularly barren areas, representing approximately 10 percent of the area, the department has hired villagers to dig pits and plant nursery-raised seedlings at a cost of Rs 600 per hectare.

Returns to the village have been substantial. In 1988/89, approximately 12 tonnes of firewood were generated from the clearing of forest land, with an additional 50 tonnes of fodder harvested. Fodder production rose to 180 tonnes in 1989/90. Village leaders commented that 40 percent of their fodder now comes from the forest, with the proportion being even greater for the land-poor families. They also felt the forest fodder was more nutritive for their animals because of the mix of grasses and tree leaves. The increasing fodder productivity of the forest land is considered to have been instrumental in allowing the villagers to add 35 buffaloes and 12 cows to their herd in 1989.

Village leaders noted that, even without the timber sharing arrangement, the rewards of forest regeneration in terms of fodder and fuel have already been worth the labour spent on forest protection.

Conclusion

India's existing systems of forest management are facing serious difficulties in sustaining natural forest ecosystems. Land satellite imagery indicates that India's remaining natural forests are being rapidly degraded. As forest resources are depleted, communities dependent on them are progressively impoverished. As forests are lost, hundreds of millions of rural people lose sources of fuel, fodder, food, raw materials for village industry and medicines. As the vegetative cover is removed, soil and water are lost, leaving the land drier and less fertile. The importance of natural forests in meeting the needs of India's 50 million tribal people is

immense. If the government were to pay for this support it would no doubt cost hundreds of millions of dollars. Deforestation and the poverty, displacement and disruption it causes can also result in economic and other problems.

It can be argued that the commercial value of timber and pulp from the natural forests is worth far less to the nation than the forest's role in supplementing the livelihood of the rural population and in conserving soil and water. It is also evident that the forest departments alone have a limited capacity to protect vast tracts of land. These two conclusions indicate that there is a need to reorient forest management systems to respond to the perceptions of the rural communities and allow them to participate in forest protection and management, which implies a shift in policy, procedures and attitudes.

The national policy guidelines, issued 1 June 1990, provide support for such changes. Fortunately, as evidenced in this article, ways to implement the policy are already evolving in some parts of India. These new participatory management systems represent a new and promising direction in forest management, not only for India but also for the rest of the world. The approach offers hope that natural forests will survive and provide long-term benefits for the present as well as future generations.

