Research Paper

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Forest Management Systems and Community-Based Forestry: A case of Sabharkantha (South) Forest Division of Gujarat state

Management

KEYWORDS :

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ABSTRACT

Promoting the active participation of local communities in equitable and ecologically sustainable management of natural forests, thus contributing to increase income and reduce poverty for forest-dependent communities, and developing a knowledge management system on community forestry. The majority of the Joint Forest Management areas showed that women participated actively in meetings, decision making and executing the works compared to before Joint Forest Management committee. Findings indicate the need to promoting tribal people for protection more forest area of each village for their sustainable livelihood.

Resource Assessment and Planning Systems

Effective management planning and inventory are critical features of sustainable forestry. Sustainable forest management depends on a strong underlying policy and legal framework, efficient property rights, clear management goals with provision for stakeholder consultations, competent management institutions, and effective long-term planning. Long-term planning requires a good understanding of the state of the forest resource for a specific area and how and why it is changing over time. Basing forest policy and management planning decisions on weak resource inventory information can result in unsustainable resource use, with long-term consequences on forest health, biodiversity conservation, and the socioeconomic welfare of forest-based communities, both large and small.

Management information systems (MIS) need significant upgrading. A well-structured computerized database of information is essential to compile inventory, production, market, and financial data for queries, reporting, and analyses. MIS for forestry is complex because of the long rotation period for some species, the need to build in predictive models for various silviculture regimes, the requirement for evaluating management approaches, and the need to ensure non- declining forest yields.

Poor monitoring systems limit the ability of forest departments to track changes in the forest. Deficiencies in forest resource assessment systems, mapping, and MIS make it difficult for state forest departments to effectively monitor how the forest is changing in response to ongoing pressures from people, fire, insects, disease, and altered land uses. In particular, there is a serious information gap related to JFM–related data (forest production, removals, value of production, employment, income).

Forest departments are not well equipped to gather, manage, analyze, and disseminate community-level forestry information in a systematic way. As a result, the impacts of forestry programs on livelihoods and poverty are not monitored, making it difficult for forest departments to readily respond to public criticism that JFM is not improving community livelihoods or addressing poverty. Instead, forest department performance tends to be measured against inputs and targets, such as the number of communities registered for JFM, micro-plans completed, or hectares of new plantations. There is a need to move beyond inputs and targets to measure outcomes and impacts.

Forest Management Systems

The capacity of forest departments to model forest stand development is weak. Forest management prescriptions for core timber and nontimber species in both JFM and non–JFM areas must be guided by more robust silviculture models, based on high-quality resource information and research. Forest departments at the state level in the three states studied employ a number of standardized silviculture models for high teak and sal forests and coppice in various states of under stocking. Generally, the better stocked areas are slated for rehabilitation, using protection against grazing and natural (coppice) regeneration; gaps in more depleted areas are restocked by artificial regeneration, using presprouted stumps. These models are very traditional, aiming at restoring even-aged forest architecture, with few innovations to meet changing livelihood needs of communities. Developing commercial teak plantations on degraded forests can affect nontimber forest products. Kendu leaf production can decline as the canopy cover increases (Hill and Shields 1988). Defining the optimal mix of teak or sal overstory and nontimber product understory is critical to developing JFM and meeting local needs. Strengthening capacity in yield modeling will require better growth and yield information.

Micro-plans are still driven largely by general working plan prescriptions. Broad "rule of thumb" prescriptions for major forest cover types from the division-level working plans provide a quick reference for forest department field staff to identify silviculture treatments for the JFM forest, but they may not always be the best site-specific prescriptions to manage secondary local species for community livelihood needs.

Private sector space for JFM planning needs expansion. States lack opportunities for private sector forestry consultants to engage directly with communities in the forest management component of micro-planning. This puts added pressure on limited forest department field staff to undertake this function in addition to their other duties.

Forest Department Capacity and Community-Based Forestry

Human resource capacities at the field level vary across the three states. Service delivery usually begins with the range forest officer, who is normally in charge of organizing JFM committees, helping prepare the micro-plans, and overseeing their execution.

Forest Guards, for example, usually provide their own bicycles for transport. They normally do not have a field kit, consisting (at a minimum) of a local forest cover map, compass, measuring tape, notebook, and pencil. Field offices also lack basic inventory equipment, such as a survey chain, a diameter tape and clinometer for measuring tree size, and an increment corer for measuring tree age.

Many field staff lack advanced forestry knowledge and skills for JFM. The average field staffer is about 50 years old. Most have little if any, training in modern techniques of community-driven development, such as participatory planning, social mobilization, and group formation. Many forest department staff does not fully understand new concepts of rural livelihood development and how forests can address poverty. Extension service delivery is quite poor in most cases, due to lack of transport, overstretched field staff, and the fact that practical research re-

sults are rarely geared to community problems.

Lower level field staff has an enforcement mindset that makes it difficult for them to adjust to a new role as facilitator/negotiator of JFM activities. They perceive JFM as an erosion of their authority. They therefore often mechanically go through the motions, in the hope that JFM is yet another fad that will disappear in a few years. Motivating staff to break out of their traditional mindset is very hard and takes time. There is no incentive for officers or staff to work on JFM activities, since their performance assessment does not depend on the success of JFM.

Even for honest lower level officers, enforcement activities offer a sense of power and status. For others enforcement offers an opportunity for rent-seeking behavior. It is natural that over time, a distortion of priorities has taken place in favor of risk-free enforcement-related activities.

Lack of fresh recruitments, poor opportunities for career advancement, and little improvement in technical and management skills have contributed to low morale and development of a passive attitude among many field staff. The impact of JFM can be felt only after several years, while the tenure of a DFO is usually less than three years. There is no guarantee that the officer's successor will sustain the work with the same tempo and spirit. The fact that officers may not see the fruits of their labors reduces their motivation to implement JFM. The field staff works under extremely hostile conditions, without adequate resources.

Most villagers or tribal people have no documentary evidence of their existing rights on the forests. This makes it difficult for DFOs to set objective criteria for sanctioning tenure rights, and it leaves them vulnerable to political pressures. The micro-plan is an important planning document whose preparation requires care and attention. In practice, however, because of lack of time and technical expertise and the resistance of some field staff to seek external assistance or collect data, the plan is just another routine document rather than a real planning tool. DFOs are generally busy with other departmental activities and are not given enough time to scrutinize plans. (On average up to 40 percent of a DFO's work time can be spent on forestry-related legal problems, including attending court.)

The working plan, which is the basis for micro-plan prescriptions, should be an important strategic planning document for the department. In general, however, working plan officers do not have independent resources. They are required to share the division resources and are totally dependent on the local territorial DFO. Naturally, officers are not motivated to work as working plan officers and can view doing so as a punishment posting. So, the forest department lacks technical knowledge and information regarding recent developments in agro-forestry, nontimber forest products, marketing, and other areas.

Social Capital Building Processes and JFM

Current processes in JFM for building social capital are weak. The current JFM registration and micro-planning processes give insufficient attention to social mobilization and group formation within the community. In some cases the entire process of community engagement, committee registration, and micro-planning can take as little as two weeks. Local institutional and governance structures in forest fringe communities are complex, particularly among tribal groups, where informal systems for managing local forests may exist. Community capacities are often very weak, given high levels of illiteracy.

Conflict resolution under JFM needs to be more equitable. Conflicts always arise in natural resource management; different groups in society often disagree over objectives and values associated with forests, how the forests are allocated, how they are used, who benefits, who bears the costs, and so forth. These disagreements are exacerbated in India, where population density is high; some rural groups such as tribal people have strong links to the forest; and emotional and political issues surround land and forests. Formal mechanisms under JFM for resolving conflicts between communities and forest department are heavily weighted in favor of the government. In general, the local forest department officer has the authority to arbitrarily resolve conflicts between the community and the department, in the extreme by disbanding the JFM committee. Field examinations in all three states indicate that many field officers work very hard to resolve conflicts informally and fairly through dialogue, usually with positive results. However, an underlying system that ensures a balanced and equitable resolution of conflicts between a community and

Economic Incentives for Community Participation in JFM in India

Communities may not have strong incentives for making greater commitments to JFM. The participation rate of communities in JFM is strong nationally, but many JFM committees may not be fully functional. Moreover, many communities involved with JFM feel little sense of ownership of the resource or the program. The main community benefits are minor forest produce. Although JFM legitimizes and provides increased security and access to these resources, many communities would be harvesting subsistence production without JFM. Without investments to improve collection rates and value addition, JFM thus does not provide a true incremental benefit.

Timber harvesting and marketing, especially for nationally listed species, is managed solely by the forest department, with the community providing labor for commercial harvests and ostensibly receiving a share of net revenues through current and rather opaque benefit-sharing schemes. Coupled with the lack of efficient resource use rights, communities tend to lack strong incentives to assume greater responsibilities and make greater commitments toward long-term forest management as capacities are improved over time.

Case of Sabharkantha District

Social impact:

Schedule caste and Schedule Tribes are major community in the JFMC villages of Sabarkantha. It was found that women participated actively in meetings, decision making and executing the works. The best example of women participation is Aravali Briksh Utapadan Sahakari Mandali, Odd; where all executive members (11) and total members (200) are tribal women. Organized ability was increased in the Landless labours and farmer for protecting their forest on their own so their strength comes from their own motivation. Leadership increased among the villagers. Women contributed more than 60% labour works in the studied areas.

Economic impact:

The fodder production increased in the each JFMC village after plantation and protection. JFM committees protected and conserved forest resources resulting in increase fodder production. The fodder collected by desired JFMc members from the plantation area on cut & carry basis. The highest production of fodder was observed (1600 quintal) in Vagheshwary followed by Khundol, Patiakuwa. These sites produced higher fodder due to more treated area 50 hac as well as two to three years protection time except Patiakuwa. More ever, Patiakuwa produced highest fodder on the basis of per unit land and time. The highest collection of Tendupatta was 91665 bundles in Kundal followed by Patiakuwa and Vagheshwary. High density and good growth of Tectona grandis in Patiakuwa and Vagheshwary resulted in low density of Diospyros melanoxylon (Tendupatta) plants and its production. In addition to this from the JFMC protected forest area of Kundal, Bhetali and Vagheshwary village, Acacia nilotica and Anogeissus pendula gum was also collected adding to the income of beneficiaries. Initially, the availability of Tendupatta and NTFP was very low quantity but it is a clear indication of potential of such increased returns and ensured good financial returns to the JFMC members in future. Before JFMC protection committees, the production of NWFP was negligible amount in each site.

The benefit pattern indicating that the major source of income was wage employment (58%) and fodder collection (26%). The income from NTFP was very low (6%). The total income

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from wage was the highest (Rs.4,21,566/) in Odd JFMc village and Bhetali was the lowest (Rs.58,898/). Per capita income of the beneficiaries from wages was only generated to Rs. 2061/ per house hold through plantation activities by means of labour wages. With over 24521 men days of wages created under a forestation programme in the study area there would be a clear increase in the income of rural of beneficiaries. Total benefit from fodder collection was the highest in Vagheswary (Rs.2,40,000/) followed by Kundal (Rs.1,68,750/), Odd (Rs.1,31,250/) and Patiakuwa (Rs.1,05,000/) JFMC villages. The highest benefit per house hold from fodder collection was Rs. 1080/ in Manda JFMc village and the lowest was Rs. 225/ in Mudasi and Vejpur JFMC villages. In general, the benefit from fodder collection was Rs. 627/ per house hold.

Additional supplementary activities such as dairying and poultry also enhanced their economic status. The highest collection of NTFPs was Rs.105265 by Kundal JFMC village followed by Patiakuwa (Rs.69749). More than seventy percent of household were engaged in collection of NTFPs generating income of Rs. 104/ per house hold from NTFP collection like Tendupatta, Acacia nilotica and Anogeissus pendula gum and Annona squamosa, (sitafal) fruit only during 2006-07. Benefit from NTFP collection was very low in initial year of protection but it is most likely to due to more availability of NTFP as a result of continued protection in later age. The exploitation pattern of NTFPs indicated that there are about ten items of NTFPs having different usages. In addition, numerous other items such as fruits, berries, tubers and herbs were collected for their daily consumption needs.

Protection and conservation enhanced regeneration and growth of many species in JFMC village forest area in Sabarkantha resulted in increased fodder and NTFP produces. The protection and sustainable managed forest areas improved richness of species as well as increased income of tribal villagers from collection of NTFP (Patel et.al, 2006). Income and employment generation could almost double if simple value-addition technologies are developed and adopted within the context of small-scale enterprises (Soni, 1995). Moreover adaptation of simple value addition techniques in small scale enterprises have the tremendous potential enhancing the employment generation, income and capacity building of tribal involved in JFM activities.

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