

**Title:-** “Community’s perspective on benefits of participation in rehabilitation of degraded forest areas.”

***Abstract***

This case study presents an overview of community’s perspective on benefits from participation in afforestation program and implementation of the National Afforestation Programme (NAP) of Ministry of Environment and Forests (MoEF), Government of India (GoI) in Dablamata village of Sehore district of Madhya Pradesh.

A case has been presented in the study to highlight the key role played at the ground level by the chairman, vice-chairman and by the secretary of the JFMC. The case clearly showed that despite sincere efforts of the forest department and despite participation of community, factors like encroachment and forced intrusion of cattle stock in the forest area causes set backs to efforts of rehabilitation of forest areas. These set backs are caused regularly by encroachers and free riders. It is in this context, the role of key players takes more importance, as in such circumstances, protection of resource cannot be ensured without their continuous and active involvement. The study recognizes that participation of community’s representative/s in training, capacity building and in other activities is at a personal cost and one is exposed to unsafe circumstances and situations as chairman or as vice-chairman than as any other member of the JFMC. The study recognises the need for providing stability and strengthening the village level institution by providing direct incentives like monthly honorarium to the chairman/vice-chairman and secretary with assured tenure for successful implementation of afforestation programs. Division level forums and/or Forest Development Agency should also be empowered to take up issues like transfer of secretary of the JFMC and to provide legal support to community’s representative in court cases resulting from conflicts during protection of forest areas. The study also recognises that mandatory provisions in election of post of office bearers/key persons make the institution weak rather than providing it strength. Therefore, the study also recognises the need to provide forest committees in degraded areas with more autonomy rather than restricting its strength.

For grass, three different usufruct distribution mechanisms were adopted in Dablamata during first three years of implementation of the program. The usufruct distribution mechanism of auctioning the grass produce, which was finally adopted by the JFMC, is an effort to ensure protection of “plantation area” even after the project period. The revenue earned has been set aside to provide for protection of forest area after the project period. “Meaningful participation” of members of the community should be evaluated based on willingness of the members to sacrifice benefits to ensure sustainability to restoration efforts, as was undertaken by members of Dablamata JFMC. Through similar efforts, sustainability could be ensured to denuded forest areas after their rehabilitation and restoration efforts have been undertaken and more importantly, after the project period.

*Keywords: Participation, afforestation, rehabilitation, degraded forest area, encroachment, grazing, offenders, free riders, benefits, usufruct distribution, protection, sustainability.*

### ***Introduction***

Joint forest management committees formed around degraded forest areas were mainly defunct and found themselves as puppets of forest department to look after the depredated resource in absence of holistic program for restoration of these degraded forest areas. Forest plantations in India have shown dismal record. National Afforestation Program, which is being implemented across the country in territorial forest divisions and in National parks and Sanctuaries, is an opportunity not only for forest committees to rejuvenate and rehabilitate their forests but also for forest department to establish and strengthen JFMC's, especially in degraded forest areas. NAP is perhaps the largest afforestation effort of Government of India in post 1988 scenario. Some questions that arises here are, after eighteen years, are the institutions envisaged in the national forest policy, 1988 still young or have they been strengthened enough to take up the challenge of rehabilitating degraded forest areas?. And if they are not, what policy changes are needed to strengthen them (especially JFMCs undertaking implementation of NAP)? People's participation has been the central theme of JFM. But what do the member of community participate for?. A distant dream (usufruct sharing after final harvest from degraded forest area)!

The purpose of the study would be served if there can be any contribution of this study to wider acceptance to the term "meaningful participation" especially in context to implementation of afforestation programs in rehabilitation of degraded forest areas. Is participation, gathering more and more people around forest officials or for that matter around monitoring teams or getting attendance in (false) meeting records? or shall participation be more focussed and implicit in decisions taken by the forest committee and efforts taken by them in ensuring sustainability to the forest resource?. If the latter ensures sustainability, then evaluation of afforestation program shall be done based on such measures taken or procedures followed.

At its simplest, a participatory approach is a commitment to equity in forest management. Participation helps ensure that local people can share in the benefits of forestry and can take decisions about forestry matters that affect their lives. Its purpose is to ensure that forest management makes a real contribution to secure local livelihoods and that by doing so it also secures the future of the forest resource. Communities, families and individuals regularly conduct their own cost-benefit appraisals of forestry schemes to decide whether or not they wish to invest in them. Some communities will be eager to assume full managerial responsibility for the maintenance of a forest resource; others will prefer to leave the job to the professionals and to be involved only in setting objectives and monitoring the forest department performance (The forest manager's guide to participatory forest management, FAO). The study presents an example of successful implementation of NAP where even when the village community leaves the job to forest department (Key persons) and is involved only in setting objectives, can successfully implement JFM. The study also attempts to answer, as to why would people participate or not participate and to what

extent, in restoration of degraded forest areas?. And, why, in these circumstances, the role played by community's representative and by the secretary of the JFMC defines the success or failure of the program. Members of JFMC's formed around good forest cover and having larger dependence on forest for livelihoods, fuel wood and fodder than on other sources might find active participation in decision-making, benefit sharing and management of the resource to be beneficial in the short and long term. Whereas, forest committees with degraded forest areas and having little economic dependence on forests for livelihoods might not elicit participation in form of collective action or as a people's movement, which may be there with areas having similar cover but larger economic dependence on forests. In such circumstances, there is enhanced role of the chairperson/ vice-chairperson and the secretary of the JFMC, who are recognized as 'Key persons in implementation of any afforestation program' in the study. For continued success of JFM, village communities need to be provided with enough flexibility to build institutional arrangements that are sustainable (Balooni, K, 2002). Therefore, in degraded forest areas policy provisions for selection of 'Key persons' needs to be more flexible.

After about a decade of implementation of JFM, the government of Madhya Pradesh, determined that: "The primary purpose of people's involvement is to create conditions at the local level, which enable improvements in local forest conditions and productivity. A second goal is to support an equitable distribution of forest products." (Source World Bank 1995; Singh 2002). Rehabilitation of degraded forest areas becomes all the more difficult, if the forest area is under encroachment and/or is controlled by influential and powerful people who try to sabotage constructive efforts of the community, by all means. Prevention of encroachment is one of the two most important reasons why people participate in JFM (Vardhan and Negi, 1999). Therefore, the study recognises strengthening of JFMC against forest offences and other destabilizing factors as a prerequisite for successful implementation of JFM. The study discusses 'participation of people in management and rehabilitation of degraded forest areas' under the above stated two goals of participation i.e., creating conditions and equitable distribution, through study of implementation of NAP in Dablamata village of Sehore district of Madhya Pradesh.

### ***Issues raised***

In a way the study has raised more questions than it has answered. Who are the main actors in implementation of the program? Is the Chairman of the JFMC (representative of the village community in JFMC) and the Forest guard (secretary of the JFMC and representative of the forest department at the village level) the main actors and if they are do they have enough incentives for successful implementation of the program?. What efforts should be taken during the implementation of the program to ensure sustainability of the resource?. The present case has narrated events that occurred during implementation of the program in first three and a half years. These questions have been raised by key persons, community and at times during discussion with the departmental staff and officials during implementation of the program in Dablamata.

Some of the questions the case study raises and attempts to answer are as follows: -

- How do these stakeholders view an afforestation program?
- What are benefits of participation from viewpoint of village community?
- Are the interventions sustainable and are efforts adequate to ensure institutional development of the JFMC?
- What are the prospects of afforestation programs (in degraded areas affected by encroachments) in the new management set up of Joint Forest Management?

### ***Methodology***

The case study is based on the author's experience of working as project coordinator of the agency. Information available in the micro-plan, secondary information collected from revenue records, other related information in the Ichchawar forest range office and information collected from Forest Development Agency, Sehore has been useful in writing the study.

Community's perception on issues discussed and raised in the study and of benefits from the program has been collected using questionnaire through interviews and focus group discussions. A questionnaire was prepared for key persons (the forest guard, the Chairman and vice-chairman of the JFMC). Data is collected through questionnaire's having both open and close type of questions. The data have been analyzed using ms excel.

### **Description**

Dablamata village forest committee was formed in the year 2000 and a total of 400.694-hectare forest area was allotted to the JFMC for rehabilitation, protection and conservation of the degraded forest resource. (Source: Microplan). Prior to the formation of JFMC, forest department as regular departmental work undertook forest protection and other silvicultural activities in the area allotted to the JFMC. Since the formation of the JFMC up to 2002, the forest committee was virtually defunct because of paucity of funds and forest area was encroached upon because of lackadaisical approach of the village community and forest staff towards the forest resource.

### ***Dablamata village: A profile***

Agro-climatically, Dablamata is a typical village representative of semi-arid areas of central India. The village is situated 66 Kms from Bhopal and 29 Kms from Sehore. It falls in the jurisdiction of Ichchawar tehsil of Sehore district, which is about 9 Kms from the village. The distance from Ichchawar to Dablamata had to be covered on foot during monsoons (in 2005 new road had been constructed), which restricted the movement of the forest staff and of the agency during monsoons. There are 40 landless households in the villages that are totally dependent on availability of labour work for their livelihoods. There are 15 other households that are dependent on alternate sources of livelihoods. Other than these households all

households have been ranked as medium to big farmers by villagers participatory rural appraisal. Some of demographic details of the village such as number of households, average irrigated land and cattle population etc are given in the table below:-

|  |                    |
|--|--------------------|
| Forest area                                      | 400.694 hectares   |
| Total number of households                       | 445                |
| Average Irrigated cultivated area /household     | 1.2 hectares       |
| Average Un-irrigated cultivated area / household | 1.0 hectares       |
| Average private pasture land/ household          | 1.0 hectares       |
| Number of agriculture labour/landless households | 40                 |
| Number of marginal/ small farmers households     | 281                |
| Total human population                           | 1338               |
| Schedule Cast households                         | 63                 |
| Schedule Tribe households                        | 50                 |
| Other Backward households                        | 302                |
| Literacy rate                                    | > 40%              |
| Cattle population                                | 810                |
| Weekly market (Place, Day)                       | Icchawar, Thursday |

(Source: Microplan & revenue records)

Black cotton soil, sandy loam and red soil are types of soil found in the village and forest area.

#### ***Brief description of the forest area***

Sehore forest division lies between parallel latitudes  $22^{\circ} 30'$  and  $23^{\circ} 52'$  north and the meridians of longitudes  $76^{\circ} 26'$  and  $77^{\circ} 59'$  east. On an average Sehore receives rainfall for about 40 days in a year. The normal range of annual rainfall is 1100 mm. (source: working plan).

The forest area allotted to the Dablamata Village Forest committee is teak dry deciduous forest and classified under rehabilitation treatment series (Source: Microplan). The soil depth of the area varies from shallow to deep (ie varying from >10 cm to <90 cm). Black cotton soil and alluvial soil are two principal soil types. The area undertaken for Assisted Natural Regeneration (ANR) component of NAP, was severely degraded due to uncontrolled grazing and illicit cutting and lopping for fuel wood, light timber and for fodder. The area had good rootstock. Live stumps of coppicing species like *Tectona grandis* and *Lagerstromia parviflora* were available for treatment. Live stumps and malformed seedlings of other species like *Butea monsperma*, *Acacia catechu*, *Diaspyros monoxylon* and *Buchnanea lanzen* were also available in the forest area. Some natural regeneration of one to two years old plants of *Azadirachta indica* species could be seen in between *Carissa congesta* (Karonda) and *Gymnosporia montana* (Baikal). *Zizyphus rotundifolia* (Beri ) and thorny shrubs. When the forest area was taken up for treatment, it was

totally depredated and devoid of woody growth and regeneration due to uncontrolled grazing, illicit cutting and lopping and encroachment.

### ***Management history and encroacher's/free rider's perception***

Forest plantation was earlier undertaken in early eighties by the forest department in the forest area allotted to Dablamata. A mix of fruit bearing species like *Embellica officinalis* and *Mangifera indica* were planted along with timber yielding species like *Tectona grandis* and *Dalbergia sissoo*. Multipurpose trees and bamboo species like *Azardirachta indica* and *Dendrocalamus stictus* were also planted. According to villagers, the plantation was successful but after the project period, interventions of the forest department declined and as a result of which the forest area became open access. It became good grazing ground for the cattle stock of the village, of the adjoining and even for cattle of far away villages. Gradual lopping of the trees, incessant grazing and unsustainable collection of wood for fuel not only destroyed the growing stock but the regeneration was also severely hampered. The area became gaunt shadow of its immediate past once the project period was over and the activities of the forest department in the area declined. According to the villagers “What was achieved in five years was destroyed in few months in absence of effective management by forest department and lackadaisical approach of the villagers”. *This aspect of history of forest area has been helpful in planning interventions for ensuring sustainability of the plantation, which would be discussed later in the study.*

Similar situations, like encroachment and excessive grazing, as were at time of implementation of NAP also existed at the time when the plantation was previously undertaken, the only difference now being was increased magnitude of the problem and change in management towards community participation. People who had encroachment in the forest area before the plantation, in early eighties, had re-instated their right over the area after the project period was over. Encroachments have over the years been gradually extended a few meters in all possible direction/s after every rainy season and/or after transfer of every forest guard. A forest guard, in his new posting, take's time to realize the extent of old encroachment. Many-a-times he either does not recognizes the gradual extension or even when he realizes, the encroachment goes unreported as it goes against him and the departmental action is more likely against him than against the encroacher. This was how encroachments of few meters were extended to hectares over the years in the forest area of Dablamata. The role of forest guard in protection, development and ensuring the sustainability of plantation has increased in the new set up of Joint forest management. This aspect (role of the forest guard) of forest administration is often neglected contributing to failure of collective community and departmental action for rejuvenating degraded forest areas. *The Dablamata plantation site has suffered severely with transfer of its forest guard, this aspect of forest administration would be discussed in the study.* People having agricultural fields adjoining to forest area were undertaking these practice's of encroachment and to support their claim over the land even tried to support their right with the support of revenue staff (Patwari), if the forest staff did not involve in such practices while demarcating and surveying. Trench cum mound (TCM) on the boundary of the forest area or of the plantation area definitely represents the last limit of extension of agriculture fields of adjoining forest area and has been a good

psychological barrier to encroachers, if not to the cattle. The forest area earmarked for plantation in the afforestation program had encroachments, in form of extended agriculture fields, by the villagers having revenue land adjoining to the forest area. Resistance at the outset was from these people who continue their efforts of gradually destroying the plantation unless they are convinced that the land could not be recovered by them even if the plantation fails (by establishing concrete demarcation pillars or by digging TCM or demarcation trench). Similar initiatives were taken up during implementation of the program in Dablamata, their effectiveness could only be assessed in coming years but its immediate psychological impact would be discussed in the case study.

The period of forest plantation on the encroached land was/is taken as five-year problem and opposition or conflict is not directly undertaken with forest staff or with the officials. There is a general understanding among the villagers and the encroacher/s (both of the village and from other villages) that once the project period would be over, the land could be again taken up for agricultural purpose by the encroacher/s. It was for this underlying reason that the villagers of the Dablamata village forest committee did not enthusiastically participated, initially, when meetings were organized in the village during the implementation of the program.

Once the advance work and creation activity is over and protection is ensured through paid protection representatives, the next claim is on the grass. The encroacher wants full right over the grass from the land encroached by him so that his claim/ authority over the land does not gets diluted over time. The continued claim on the land is more in hope that sooner or later the encroachments would be legalized. Till the encroachment is legalized benefit of one crop or benefit of a grazing pasture land that could either be used for one's own cattle stock or grazing right on which is sold (for a season), is suffice motivation for the encroacher to keep claiming his right over the resource. Claim over grass from certain part of the forest area is not discernible to outsider as an encroachment but this was how most of the forest area selected for plantation under the national afforestation program in Dablamata was encroached for grass by few influential people. Before the intervention of the forest department, the encroacher did not allow anyone to cut grass from or grazing in the area earmarked by them. Once the afforestation was undertaken encroacher did not want the grass from the area to be cut by anyone else so as to keep his claim on the tract of land. Under these circumstances ensuring equitable distribution of grass becomes difficult. Conversely, harvesting of grass is more important and critical to the health of the plantation than issues related to equitable distribution. The fodder is attraction to the cattle once the Kharif crop is harvested, as now there starts free movement of the cattle and deficiency of grass on area openly grazed during monsoons. If the grass in the plantation area is neither harvested nor grazed it is exposed to even greater threat of fire during summers. The equitable distribution of right/privilege over grass and the grass being properly and timely harvested are two important issues that are critical to the success of plantation in the areas having geo-climatical and social conditions similar to that in Dablamata. Therefore, in such circumstances there is need for developing and adhering to site specific action plan for equitable right to cut and carry and

clearing the area of the grass. *The study attempts to highlight efforts undertaken by the JFMC and the agency towards the concerns and issues raised above in developing the usufruct distribution mechanism.*

### ***Community's perception on benefits of participation in rehabilitation of forest area***

Degradation of the forest over the years has effected village community of Dablamata in more ways than one. More time is now devoted by women for collection of fuel-wood (for those dependent on forest areas only), open area for grazing has reduced with increase in encroachments, non-availability of small timber and decline in average number of days devoted to collection of NTFPs besides deterioration of various environmental functions. Conversely, with development of irrigation system over the years, area under irrigation has increased by many folds leading to increase in availability of agricultural residue for fodder, increased availability of agricultural work opportunity for the poor. Dairy has also come up as an important source of revenue and as second most important livelihood generating activity after agriculture, in the village. As a result of which, the traditional dependence of the village community in general and poor in particular on forests over the years have witnessed a gradual change towards agriculture and allied activities and a neglect of forest resources in the village. Availability of irrigation facilities ensures availability of work opportunities for the poor all round the year.

The V.FC was selected for undertaking village development and for treatment of the forest area under the assisted natural regeneration component of NAP in 2002-03. The implementation of the program was offered initial resistance (by the encroachers) as major part forest area selected for rehabilitation under the program was encroached upon by few influential people of the village and by outsiders denying members of the JFMC right over grazing their cattle in the forest area. About 15 families were having encroachment in the forest area. The situation was alarming for the villagers as the closure of the area by the encroachers even denied their cattle stock way to the village pond. The growing stock was depredated in absence of effective control of the JFMC. Village community even after formation of the JFMC wanted forest department to handle the issue as any effort to dislodge the encroachment on their part was liable to receive collective opposition from powerful and influential people who had encroachment in the forest area. On the other hand, with formation of JFMC the forest department had reduced its intervention in protection and management of the forest resource. Cooperation was extended to the afforestation efforts by decisions made during village meetings, by not intruding their cattle stock in the forest area and by amicably resolving conflicts, if any, during village meetings. These efforts faced regular set backs from people having private gains more than the gain of individual member of the JFMC.

Grass plays an important in the village Dablamata like other villages in semi-arid region of the country and especially for the marginalised section of the village community. During mid-September to mid-October/November the landless in Dablamata is usually the busiest as is the time for harvesting Kharif crop "Soyabean" (is contracted per unit area and the entire family of the poor engages itself in this activity) and immediately after it, in sowing Rabi crop. As most of the agricultural land is irrigated, fodder from agricultural residue forms the largest source of fodder for the livestock. Dairy is another important source

of livelihood, therefore fodder is given due importance. During this period, landholders want the grass to be allowed to cut free of cost so that good grass producing areas could be harvested leaving grass from unproductive areas to the landless. In Dablamata, the lost privilege to collect fodder is sufficient demotivating factor for the member of the community for not participating in the village meetings. It is also the only tangible benefit and source of motivation to for the members of the Dablamata JFMC. Right to cut and carry grass for fodder determines economics of keeping cattle, at least for land-less, in favour or against. Agriculture residue for fodder is often limited with the land-less and so is the purchasing capacity. Availability of grass for fodder from the forest area could ensure that the cattle stock (usually one or two) with the poor could be fed throughout the year. Fodder is so valued that rich engage poor as laborer for cutting grass from the forest area in Dablamata. ***Fodder for them was the only tangible benefit to the members of the JFMC besides the collective gain of recovering the village resource from encroachers.***

#### ***National Afforestation Programme (NAP)***

NAP has been formulated by merger of four 9<sup>th</sup> plan centrally sponsored afforestation schemes with a view to reduce multiplicity of schemes with similar objectives, ensuring uniformity in funding pattern, implementation mechanism, avoiding delays in availability of funds and institutionalizing people's participation in project formulation and its implementation. The two-tier set up of FDA (at the division level) and JFMC (at the village level) is the implementing agency of the program. Implementation of NAP, assisting JFMCs in management of CPRs, addressing their socio-economic needs and taking steps for value addition and marketing of forest produce are some of the outlined objectives of FDAs. Similarly, approving afforestation plans, training, formulating guidelines for utilisation and sharing of usufruct and coordinating and monitoring activities of JFMCS are some of the functions of the Agency. Short and long term objectives of the program are as follows:-

##### Short- term objectives

- Regeneration and eco-development of degraded forests and adjoining areas on watershed basis.
- Augmentation of the availability of fuelwood, fodder and grasses from the regenerated areas.
- Securing people's participation in planning and regeneration efforts to ensure sustainability and equitable distribution of forest products from the regenerated lands, and to promote the partnership concept in the management and administration of forests and common property resources.
- Promote agro-forestry and development of common property resources.
- Promotion of fuel saving devices to encourage efficient use of fuelwood and to reduce drudgery of rural women involved in collection of wood, as also to improve the environment.
- Conservation and improvement of non-timber forest produce such as bamboo, cane and medicinal plants.
- Encourage production of non-timber products such as wax, honey, fruits and nuts from the regenerated areas.
- Raising coastal shelterbelts to mitigate the adverse impacts of cyclonic winds.

- Develop water resources through plantation and water harvesting programme.
- Development and extension of improved technologies such as clonal propagation and use of root trainers for raising seedlings, mycorrhizal inoculation, etc.
- Rehabilitation of special problem lands like saline/ alkaline soils, ravines, desert areas, coastal areas, mined areas, Himalayas, Aravallis and Western Ghats.
- Employment generation for the disadvantaged sections of the society, particularly women, scheduled castes/ scheduled tribes and landless rural labourers, inhabiting the forests and adjoining areas.

#### Long-term objectives

- Protection, conservation of natural resources through active involvement of the people.
- Checking land degradation, deforestation and loss of biodiversity.
- Evolving village level's people's organisation which can manage the natural resources in and around villages in a sustainable manner.
- Fulfillment of the broader objectives of productivity, equity and sustainability for the general good of the people.
- Improve quality of life and self-sustenance aspect of people living in and around forest areas.

Capability endowment and skill enhancement for improving employability of the rural people.

#### ***Implementation***

Dablamata is one of the 17 JFMC's under FDA, Sehore selected for village development and implementation of assisted natural regeneration component of NAP in 92 hectares of forest area out of total of 400.694 hectares forest area allotted to JFMC for management and protection of the forests. The project period was 2001-02 to 2006-07 but because of delay in receiving funds and sanction of the project, the project could only be started in 2002-03. The period from July, 2002 to June,2003 was utilized by FDA, Sehore for awareness generation, capacity building, preparation of microplans and for soil moisture conservation and advance work. During this period various training and capacity building programs were carried out in the village and also at the division level in which the Chairman and secretary of Dablamata forest committee actively participated. From the beginning of the program some of the influential villagers were opposed to the implementation of the program mainly for two reasons, namely, (a) the land available to graze their cattle would be reduced; (b) they would have to do away with the encroached forestland. In general the village community were apprehensive of the distant benefits but wanted to reclaim the lost forest area from encroachment. The poor and marginalised section of the village wanted the activity to undertaken by the forest department, so that (a) benefits from the forest area could be shared by one and all; and (b) encroachment is reduced as it denied their cattle stock of way to the village pond. But the poor did not come openly in support of the program, as it would be challenge to the authority of the encroachers, who had significant influence over the poor. Though, the entire village openly opposed encroachment of the outsider/s and their authority over the resource they do not find benefit of participation in rehabilitation of the forest area to be commensurate to the time and efforts needed for collective action. Forest department on the other hand, expects the village community to ensure protection of the area from

encroachment and grazing after formation of the JFMC. While free riders, encroachers and offenders find their investment in form of time and money to be beneficial and therefore had time and again tried to fail restoration efforts. In this scenario, participation of members of the community in taking decisions to protect the forest area from grazing and illicit cutting, representatives of the JFMC in participating in the activities and training and orientation programs and the forest department in implementation of various components of the program have been discussed below:-

#### ***Preparation of microplan***

A micro-plan is a 10-year management plan document of the Joint forest management committee. Two main components of microplan are village and forest resource development. Microplan of Dablamata was prepared in 2002-03 by the author of the study with effective participation of the villagers using various participatory rural appraisal (PRA) techniques like social and village resource mapping, Venn diagram and wealth ranking. Meeting of members of the Joint Forest Management Committee (JFMC) was called and benefits of the program were explained to the villagers. Microplan of the village was prepared involving all sections of village. Decision regarding choice of species, entry point activity and usufruct distribution mechanism were made jointly by forest staff and officials and by the village community during these meetings. Other demographic details and socio-economic conditions of the village were also documented in the microplan. A list of village resource development activities and income generation activities was also prepared. Through wealth ranking the economically weak households were identified to provided with livelihood opportunities. Promotion of fuel saving devices was also proposed to reduce the dependency of people on forests. During, the preparation of micro-plan the entire situation and local dynamics was assessed, which were helpful in implementation of the program and in comprehending participation from community's perspective. Participatory rural appraisal (PRA) exercises carried out by the author of the study in 2002-03 proved to be effective in demystifying the reason for low participation and also on the other hand to sensitize villagers of there collective rights over the forest area. Without participatory exercises being conducted it would have been difficult for the implementing agency to know these local dynamics and also for the poor to realize that the plantation activity was sincere effort of the forest department. Also, involvement of large number of people and not restricting the activity to the chairman and vice-chairman (during the initial period), helps establish faith of members of the community in the program and subsequently their participation in the meetings increases.

#### ***Dislodging encroachments***

Few encroachers distributed most of the forest taken up for plantation among them. Encroachment was done in the forest area wherever there was soil depth available. Some of the encroachment was in form of extended agricultural lands by farmers having agricultural land adjoining to the forest area, agricultural encroachments and encroachments for fodder. While, encroachments that were used as agricultural fields were easily discernible, encroachments for fodder were only during monsoons. The program suffered initial set backs in form of resistance during village meetings. Recognizing the local dynamics, it was clearly stated during village meetings that the afforestation activity would be undertaken and that there is

no possibility of avoiding the program. The forest area was surveyed and demarcated and during the same period concrete boundary pillars were erected (under different program). Demarcation trench was dug initially to clearly mark the boundary where agricultural land was adjoining forest area. Loose soil from TCM was also excavated. This has sent clear signal to the encroacher of the permanency of the effort, at least till the project period.

There were renewed efforts of encroachment in the second year for which cement pillar and barbed wire fencing was used and some of the area had to be planted again.

#### **Awareness generation**

Awareness generation has been instrumental in successful implementation of the afforestation program by FDA, Sehore. Financial decentralization of the program was one of the unique features of the program. As the implementation of the program was to be undertaken in a totally decentralised two-tier set up of FDA and JFMC's, the forest officials and staff were made aware about the program organised at the division level. Similar awareness building workshops were organised at the village level to generate awareness about the program among members of the JFMC. These programs were instrumental in activating the otherwise inactive forest committees and in generating awareness about JFM and FDA about which not only the key players but also the forest staff and officials had preconceived notions. Awareness workshop carried out in the village was helpful in eliciting people's participation in execution of the program.

#### ***Capacity building and training***

NAP is one of the major afforestation/forestry programs implemented in the territorial forest divisions in the state, since adoption of state resolution of JFM and subsequently formulation of JFMC's requiring capacity building of members of the community and forest staff. Training programmes for Chairman, secretary and forest staff was carried out from time to time at the division headquarters. Training on microplans, accounting, JFM, soil and moisture conservation, fuel saving devices, bio-fertilizers and other livelihood generating activities were undertaken by FDA, Sehore. A training program each for PRA, micro-planning, soil and moisture conservation was carried out in the Dablamata. These training and capacity building programs at the division level and then again at the village level were instrumental in developing capacity of the key actors and for successful implementation of the program. Training on bio-gas and improved fuel saving devices was also extended to encourage efficient use of fuel-wood and reduce the dependence of people on forests. The chairman had actively participated in these training programs, which has also helped in dissemination of message to the members of the JFMC.

#### ***Entry point Activity***

Under entry point activity component of the program funds are provided for village resource development to generate trust of the villagers towards the forest department. About 10% of the funds in the budget were provided for generating awareness, capacity building and training and for entry point activities of which two-third was earmarked by FDA, Sehore for entry point activity. Entry point activity is the only component of the program providing funds for achieving short term objectives of promotion of fuel saving devices, development of common property resources and for employment generation activities. During

preparation of microplans a list of activities was prepared for undertaking entry point activity in the village. The activities enlisted by community members of Dablamata wanted repair of irrigation canal, stop dam construction, pond for rainwater harvesting and repair of the village road as priority, but because of paucity of funds repair of village road could only be undertaken. After training on fuel saving devices the villagers wanted agency to provide financial support for installation of bio-gas and unnat chulhas but it could not be undertaken in absence of adequate funds. More allocation of funds under entry point activity could have elicited more participation is uncertain but could have definitely helped the agency in achieving the objective of reducing dependency of village community on forests by promoting fuel saving devices. The activity undertaken the component of entry point activity has not been sighted as one of the reasons for participation, by the villagers.

#### ***Soil and moisture conservation***

Under soil and moisture conservation component of the projects, funds (not exceeding 15 percent of the project cost) were provided to prevent soil erosion from run-off and for retention of moisture in the forest area. 400 contour trenches of size 3mt\*.45mt\*0.45mt were dug on contour lines at a distance of 3meters in a staggered manner. Only two loose boulder structures could be made because of unavailability of loose boulders in the forest area. Seedlings of Teak and Bamboo were planted on sides of contour trenches. The seedlings planted on contour trenches had low survival rate (after monsoon in the year 2004). The low survival was possibly because of two reasons. Firstly, in the black cotton soil area there was casualty because of water logging. And secondly, as these trenches were dug on outer side (on slopes) was most affected by incidences of grazing.

#### ***Fencing***

The mode of protection of the area is social fencing. The plantation is about two kilometers from the village. During participatory rural appraisal it was realized that for protection of the area two full time watchman would be required. Two paid watchman do the protection and other activities like maintenance of brush wood fencing, soil work and other small work required in the plantation area. According to guidelines issued by the MoEF for NAP, social fencing was to be undertaken. The budget for fencing remained unutilized till 2004 with the agency. In the year 2004 about 2-3 hectares of area which was previously encroached and on which the plantation was undertaken but was destroyed gradually by the encroacher, was fenced using barbed wire and cemented poles.

Brush wood fencing and three-layer live hedge fencing was done along with digging of the demarcation trench in the initial year of plantation. Brush wood fencing is useful in the initial years of plantation but it loses its effectiveness after two years. The protection worker carry out repair of the brush wood fencing to keep it effective. Demarcation trench was dug with the dual purpose of demarcating the forest area to distinct it from the adjoining revenue agricultural fields and it also provided bund for generating live hedge. A live hedge of Ratanjot (*Jatropha carcus*), Rambaan (*Agave sislana*) and Gataran (*Caesalpinia bonducella*) was planted in three layers. TCM that were dug when plantation was previously undertaken in the area in the area, has been successful psychological barrier to the encroachment of forest area adjoining

to revenue lands. The TCM was made effective by deepening and soil excavation. The bund of the TCM has been utilized for planting live hedge. Seeds were sown with the onset of monsoon. Cuttings of Ratanjot were also planted, which have given much better results than by the seeds.

#### ***Assisted Natural Regeneration***

8375 Aonla, 4000 teak and 4000-bamboo seedling totaling to 16375 were planted with the onset of monsoons in the year 2003. Root-trainer seedlings of Aonla were planted at a distance of 6mt\*6mt. Whereas Teak and Bamboo poly-bag seedlings were planted on either side of contour trenches. Teak's malformed seedlings of less than 20-cm girth class was cut back and live stumps were dressed to assist natural regeneration. Root-trainer seedlings of Aonla had more survival and growth as compared to those of poly-bag, (which were planted in casualty replacement).

The survival percentage of the seedlings is about 75%. The protection and additional regeneration measures adopted by the agency in 2005 ensured restocking of the area. Aonla saplings planted on encroached lands have attained height of up to 6 feet and collar girth of up to 20 cm. Protection of the coppice growth of *Tectona grandis* and other timber species has adequately restocked the area. Protection of natural seedlings of *Azardirachta indica* in thorny shrubs of *Karonda* and *Baikal* have ensured good growth. The ecological benefit from the intervention could be judged from the increased incidence of wild life.

24,747 live stumps of coppicing species were dressed. Coppicers like *Tectona grandis* and *Lagerstroomia parviflora* and other miscellaneous species like *Acacia catechu* and *Azardirachta indica* have witnessed phenomenal growth in last three years. The area is well stocked with vegetation attaining height of up to 8 to 10 feet.

Wild animals like Bhedki, Ciyar, Bhedia and deer have started visiting the forest area and adjoining pond to quench their thirst.

#### ***Employment generation***

One of the short-term objectives of the program is to provide employment opportunities (in form of increased labour work) in the village. There was mixed response of members of Dablamata JFMC. Work force for labour work was most of the times not available in the village and had to be called from other places. One of the reasons for non-availability of labour work force was/is availability of other opportunities like work on agricultural fields. For carrying out forestry work there are other factors like unavailability of water, nature of the work (difficult) and delayed payment (usually after fortnight) are reasons for non-participation in employment generation activities, even for the landless of Dablamata. Generation of employment during the entry point activity, creation work and during maintenance has not been sighted as motivation for villagers to participate in the program.

#### ***Monitoring and Evaluation***

FDA, Sehere, had regularly carried out monitoring of activities carried out by the JFMC. Progress of advance work, soil and moisture conservation, plantation, maintenance and protection have been regularly reported by the project coordinator and the sub-divisional officer to the C.E.O. Mid-term evaluation of the project have been carried out by Shri N.K.Sharma, who had stated survival percentage of the seedlings to

be 86%. Plantations of FDA, Sehore were rated as *outstanding plantations* in the report submitted to the MoEF.

### ***Usufruct Distribution***

**In the first year**, after monsoons in the year 2003 the grass was harvested free of cost by village community of Dablamata. The area was well protected by the watchman who was regularly monitored by the key persons. The encroachers (of the village) did not allow others to cut grass from forest area encroached by them for agriculture. The area that was earmarked for grazing could not be controlled by any means by the encroachers as there were left no demarcation signs through, after the plantation, through which the encroachers could have maintained their claim to other members of the village community. Therefore, the encroachers cut most of the grass from the encroached land, though there was no such arrangement at the village meetings. Other than this, good grass yielding areas were immediately harvested by the landholders by employing labour force for the activity. The poor also benefited from harvesting of the grass, which was mainly from the low grass yielding areas.

**In the second year**, after monsoons in the year 2004, in absence of any departmental support in resolving the conflict (see case) the village representatives did not extend support to the secretary as was in the initial year. And the transfer of forest guard and forester at the crucial point of time resulted in destabilizing the decentralised institution. Till the new staff in charge realized the dynamics and could get control of the situation, the area was depredated by free riders. The opportunity was also made most of by the watchman, who in an effort to recover his expenses incurred as a result of conflict allowed grazing on charging a small sum from the free riders. Till the agency realized the damage was already done. Thus, in second year the usufruct was distributed among free riders and the watchman. Not only this, encroachers also damaged seedlings planted on their encroached land and even did sowing during wee hours.

**In the third year**, after monsoons in the year 2005, rehabilitation of the area was given highest priority. Additional staff and workforce were mobilized to recover the loss. Seed dibbling, plant adoption and casualty replacement was done utilizing the funds available for maintenance. The forest guard played active role in protection of the forest area. The offenders were fined twice and the money was deposited with the JFMC. The encroached area that was destroyed earlier was again planted and was fenced using concrete and barbed wire fencing. Due to the protection of the area there was huge grass production. The JFMC decided that the good grass production areas should be auctioned and the grass from the rest of the area is allowed to cut and carry. This on one hand has ensured that there would be funds after the project period for maintenance and protection even after the project period and would not have the same fate as was earlier and on the other hand would ensure availability of grass to the poor. As the village community did not want to loose the forest area to the encroachers as has been the fate of the plantation (as has discussed earlier). On the other hand it would ensure fodder for landless. Priority, for auction was given to members of the community. Plots of size of 2 hectares were demarcated and for each plot a sum of rupees five hundred was fixed. Seventeen such plots were sold and revenue of rupees nine thousand and five hundred was earned by the villagers and deposited for ensuring protection of the forest area. This mode of

distribution of grass also had a positive effect. The grass from the encroachment was deliberately auctioned to the villagers rather than to the outside encroachers to nullify his claim over the resource (as has been earlier discussed).

### **Economic Valuation**

Manoharan (2000) has suggested economic value for multi-species plantation/open forests. These forests provide a minimum value of Rs 3239 per hectare annual flow of goods and services and estimated minimum present value of goods and services to be Rs 40365. The valuation is done at a discount rate of 5% for the period of 20 years. By conservatives' estimates annual value and present value of goods and services from the forest area undertaken for rehabilitation in Dablamata would be Rs 297988 and Rs 3713580 respectively. According to the estimate if the afforestation efforts succeeds in Dablamata (and maintains forest cover > 0.4), for selected economic benefit of NTFP, ecological functions and carbon storage, the minimum value of annual flow of goods and services for Dablamata would amount to Rs 1958404.

### **Community's perspective of Benefits**

After three years of implementation of the program, annual grass production from the restored forest area, employment generation and village development activity undertaken by the agency are the benefits accrued by the community. Only few villagers engaged in labour work, during advance work, because of availability of alternate sources of livelihoods in the village. Similarly, funds available for entry point activity was miniscule for the purpose for which the fund is intended.

The villagers free of cost harvested grass in the year 2003. The distribution was on first come first serve basis, those who came earlier harvested grass from good grass yielding areas. About one fourth of the households in the village benefited themselves by harvesting the grass. The remaining households did not cut the grass either because of unavailability of time or for no requirement of the fodder. In the year 2004, free riders, offenders and encroachers depredated the forest area. In 2005, good grass yielding area has been auctioned. Grass from remaining area has been allowed to cut and carry for members of JFMC. There is shift in benefit sharing of grass in the year 2005 than it was in the year 2003. In the year most of the households used bullock carts for transportation while in the year it was on head loads. Also, the grass, which was harvested in less than ten days in the year 2003, took about two months to be harvested (other than that was auctioned). Most of the households that benefited from grass were the households having much higher average land holding and cattle stock than the households who harvested grass in the year 2005. The shift or change in usufruct sharing mechanism signifies that the benefits (of grass) have become less lucrative in the new arrangement.

According to the villagers, the main motivation for the villagers to participate was to get the forest area free from the encroachers. Members of the community were worried about the fate of the forest area, after the project period, because encroachers had earlier destroyed similar successful rehabilitated forest area. This is manifest in the decision taken by the members to auction the grass and to utilize the amount in ensuring protection of the forest area.

### **Who pay's for equitable share?**

The farthest end of the forest area undertaken for rehabilitation is about one and a half kilometers from the village. This is the point from where most of the cattle stock was brought to graze in the forest area. The biggest encroachment of the area was from the influential and politically strong household. The closure of the area was problem to the encroacher and to other herdsman who use to bring their cattle in the forest area for grazing and to the pond for drinking water to the cattle stock. Before the plantation was undertaken grazing right over the area were purchased from the encroachers (of the village) by these herdsmen. Some of these herdsmen were from the village and some were from adjoining areas and even from Ichchawar.

After the monsoons in the year 2003 the entire area was protected and the result could easily be seen. The success of the plantation and increased involvement of the representatives of the village was trouble to the encroachers and to the free riders. On one hand where the success of plantation was implying permanent loss of encroached area to the encroacher, it on the other hand, was troubling free riders as it restricted movement of the cattle to the pond, which is the only source of drinking water in the summer months.

Attempts of grazing were averted jointly by the forest guard and the village representatives with the help of paid protection representatives. The area was patrolled by Gorelal (the chairperson) and by Suresh (husband of the vice-chairperson) during late evening hours and at times when the forest guard was not available. Unavailability of forest Naka (residential quarter of F.G) in the beat was another detrimental factor, which forced the forest guard to cover nine kilometers to Ichchawar each day, even during monsoons. Despite all these constraints the area was well protected. Some of the people of the village use to intrude their cattle in the forest area during evening or during nights. They were warned repeatedly by the chairperson and by the forest guard, but the offenders refused to take the blame. One evening when even after repeated warnings cattle were intruded in the forest area in the evening when the forest guard was not in the village. Gorelal and Suresh along with three other villagers, warned offenders of confiscating the cattle stock. On hearing this the offenders started beating up the patrolling team targeting Gorelal and Suresh. Offenders, who had gone there with full preparation of teaching "agents of the forest department" a lesson then went on to lodge a FIR in the Ichchawar police station alleging them of threatening and physically hurting the offenders outside the forest area for unleashing personal revenge on pretext of protecting the forest area. As the incident did not involve forest guard or any other departmental staff and because of involvement of local politics, the department did not involve itself into the conflict promising all cooperation financially and in legal matters. But gradually all the support (financial and legal) which was promised to the patrolling team did not come and slowly and gradually they were started being blamed for taking direct confrontation. Encroachers, who wanted to sabotage the afforestation effort, made them the laughing stocks for the village community. De-motivated by the incidence and because of the financial cost incurred, Gorelal and Suresh, who up till now very actively participated, started disassociating themselves from protection of the forest area. Protection of forest area was left to the protection worker, who had himself suffered from the incidence. Villagers sympathized with Gorelal and with other villagers involved but no much help was forwarded to them. Members of the patrolling team have been constantly asking chairman of the JFMC to bear the expenses on whose call these members had taken confrontation with the offenders. In 2004, during monsoon the forest guard was transferred from the beat and the new posted forest guard found it hard to protect the area by in absence of support at the village level. Till the new staff could understand the local dynamics the rehabilitated area was depredated.

On the other hand, the chairperson had to pay for all the expenses to the victims who had gone for protection of the forest area. With change of departmental staff and particularly the forest guard, the association between key persons has declined. Where, the new forest guard finds Gorelal to be ineffective and un-willing to participate during training and meetings organised at the division level, Gorelal expects support of forest department.

### **Policy Recommendations**

The National Forest Policy, 1988 envisages co-operation of the local people in conservation and development of forests. Accordingly, Ministry of Environment and Forests, Government of India issued guidelines to all States on 1st June, 1990. In view of the principles laid down by the Government of India, the State Government of Madhya Pradesh passed a resolution on 10 December 1991 to obtain people's co-operation in areas considered sensitive from the point of view of forest protection. The resolution also prescribed a detailed procedure for this purpose. In order to provide it a broad base and with the objective of obtaining people's co-operation in all forest areas, the State Government issued an amended resolution on 4.1.95. Superseding this resolution another resolution was passed vide notification no. F-16/4/91/10-2, dt. 7th February 2000 in which provision was made for Forest Protection Committees for dense forest areas, Village Forest Committees for degraded forest areas and Ecodevelopment Committees for the villages inside and within 5 km. from the boundaries of National Parks and Sanctuaries to ensure the protection and conservation of wild life. The resolution was again amended on 22<sup>nd</sup> October, 2001 No.F16/4/91/10-2 by the government of Madhya Pradesh after guidelines for strengthening Joint Forest Management Programme were issued by Government of India, Ministry of Environment and Forests, vide letter No. 22-8-2000-JFM (FPD). These two guidelines, hereinafter referred to as state resolution and GoI guidelines respectively, in the study, shall be discussed in context of implications that **arises** from the case study.

#### ➤ ***Women Participation***

**GoI Guidelines:** To ensure meaningful women participation in JFM the guidelines are “at least 50 percent of members of the JFM general body should be women.... and at least 33 percent of the membership in the JFM executive committee/management committee should be filled by women members... One of the posts of office bearer, i.e. President /Vice-president/Secretary, should be filled by a woman member of the Committee.”

**State resolution:** The resolution requires “...minimum 33 percent of the members of the executive committee should be women...and one of the two Chairperson or vice-chairperson should necessarily have to be a lady.’

Debate: The chairperson and vice-chairperson are two key players in implementation of the program as they are the people more closely associated with the forest department and acting as link between the forest department and the villagers. Both the GoI guidelines and the state resolution requires, one of the two (chairperson or vice chairperson, as secretary is usually men) necessarily to be a lady which means that when it comes to protection of the forest area especially at night hours or for that matter to check if watchman appointed by the committee are performing their duty, only the male counterpart shall be doing the responsibility. This also means that there would be lack of understanding between the chair-person and the vice-chairperson unless they are close relatives or if the lady is playing dummy and her role as chair person / vice-chairperson is done by her husband. Generally, males are appointed as chairpersons and

female as vice-chairperson, as the chairperson is to make regular visits to the divisional headquarters and attend to the forest staff and officials during their village visits. More than acting as strengthening pillar to JFM, the mandatory provision has resulted in weakening the institution and also as an escape goat (sighting inadequate representation of women office bearer as representative of people's participation in JFM) for those in the department who do not want to decentralize their authority.

The role, in such circumstances, of the male member (chairman or vice- chairman) becomes more demanding especially in rehabilitation of degraded forest areas, where there is constant threat of offenders and free riders. **Therefore, there is need for empowering the JFMC's by providing them the autonomy and by not restricting their choice by making such provisions.**

Policy recommendation:- For the post of office bearers (Chairman and vice-chairman) one of the members need not necessarily be women.

(ii) Conflict resolution and coordination of activities

**GoI Guidelines:** To resolve conflicts in functioning of JFM committees the guidelines provides for formation "...of division and state level representative working groups."

**State resolution:** For coordination of activities to be executed through Microplan in each district the resolution provides formation of "... a Coordination committee.... shall be constituted by the state government."

Debate: The formation of division level working groups can provide strength to the functioning of JFMC by advocating assistance for departmental support in issues like deciding the secretary of the JFMC and its extended tenure. If, a forest guard has performed well and is supported by the members of the JFMC his tenure in the same JFMC shall not affected by local politics and / or by other administrative concerns. The state level committee shall also assist chairpersons/vice-chairpersons in undertaking measures towards encroachment and other protective measures. **The need is therefore to empower the district level working/ representative groups.**

Policy recommendation:- Guidelines issued by the MoEF,GoI to state government and FDA's for implementation of National Afforestation Program shall include the need for strengthening (by avoiding unnecessary transfer of F.G) JFMCs for taking up afforestation program. FDA's and district level coordination committee should be empowered to take up and resolve such issues during its executive body meeting.

(iii) Duties of the JFMC

**State resolution:** The resolution requires the members of the JFMC to “ ... protect forests from ... illegal grazing, illicit felling, ....., encroachments ...and... render all such co-operation to the Forest Department and ... the members of the Committee would be treated as public servants similar to forest staff under different acts during patrolling of forests, and they will be provided legal protection accordingly for actions taken in good faith in the interest of the Government.”

Debate: Rules regarding provision of entitlement of legal rights to members of the JFMCs shall be made more approachable. Range Forest officer can be assigned with the responsibility to do preliminary investigation and bring up such issues to the district level forums. For this the district level committee could advocate for the compensatory allowance or for providing legal protection as in such cases there is inadequate departmental support.

Policy recommendation:- GoI guidelines should also include such a provision and the range officer shall be made responsible to ensure legal protection to the members of the JFMC.

(iv) Duties of forest officer

**State resolution:** The forest officer shall “Assist committee in discharging its duties and in monitoring, and helping them in resolving internal disputes.”

Debate: The forest officer shall also assist the JFMC or its forum at the divisional level in resolving external conflicts pertaining to protection of forests.

### ***Key Learning***

The most important question that arises is about the sustainability of rehabilitated resource. Therefore, whether or not there the program has been to create conditions for improvement in local conditions and productivity and ensuring equitable distribution are important to be discussed, especially in context to afforestation programs. Afforestation can come up as a solution to encroachment of forest areas if local conditions are improved. Sets backs to afforestation efforts are done again and again by encroachers and free riders till **some fine is imposed** (as deterrent) and **clear demarcation and boundary pillars** are established. Soil from available TCM can also be excavated and live hedge could be planted on bunds, as they act as psychological barrier to the encroacher. Chairmen and vice-chairman of the JFMC plays an important role in bridging the gap between the forest department and the villagers. Attending meetings and training at divisional headquarters, participating in implementation of the program, attending to forest officials on site visits, mobilising the community, briefing the members and monitoring protection workers are some of the activities carried out by the village representatives. If one of these two is a woman then the responsibility entirely shifts to male counterpart unless the husband of the female takes active role in the implementation of the program. **This hampers the effective implementation of the program and therefore in implementation of afforestation programs such provisions could be relaxed.** The case presented in the study clearly suggests that in Dablamata village, the collective action of the villagers for protection of the forest area is wanting in terms of developing a village institution capable of managing the resource. Village community expects the forest department and the village representatives to look after the resource. But question that arises from the case in the study are firstly, who are the people most affected by the success or failure of the afforestation program and their perception about the program. The case clearly suggests that encroachers and free riders have more stakes associated with the failure of the program than the village community has from success of the program. Secondly, what is the community viewpoint about participation?. Is assisting forest staff in protection of the forest area the responsibility of the office bearers and if so what additional benefits do they have to undertake the role and responsibility as required by them in implementation of Joint forest management. The case presented in the study suggested the need for strengthening the village institutions Also, all these activities require a lot of time which may mean loss of wages (which acts as deterrent) and to compensate for untoward incidences (see case) there is need to provide **monthly honorarium** especially in afforestation programs. Such provisions could be made from extension and awareness component of the program and the amount could be decided by the district level forum or by forest development agency. On the other hand forest guard (Secretary of the JFMC) plays the most important role in implementation of an afforestation program especially after adoption of Joint Forest Management resolution by state governments. The case study suggests how transfer of a forest guard can affect plantation and how devoted forest guards could take up the challenge. Raising successful un-irrigated plantations in semi-arid areas requires dedicated forest staff at the lowest level. Forest guards worried about their transfers would oblige local politics to keep themselves posted in the same beat or staff getting to

work after two years of implementation or half hearted staff, weakens the JFMC as an institution. Therefore, afforestation programs like NAP can include guidelines to the state forest departments of keeping selected **forest guards for assured tenures extending up to the project period**. Again the district level forums and forest development agency could be empowered to take up such issues. One another way of rewarding the efforts of forest guards could be prioritizing beats, where good plantations have been raised, for allotment of **funds for Naka** (residential quarters for F.G). Presence of forest guard would be a threat to free riders, offenders and encroachers who contribute to the failure of the program more than all other factors put together. These are some of the basic needs that are necessarily required to strengthen the JFMC as an institution, to take up afforestation in degraded forest areas with high success rate, as have been envisaged in the National Afforestation Program.

Implementation of National Afforestation Program has been successful in rehabilitating degraded forest area in Dablamata but the most important question that arises is about the sustainability of rehabilitated resource. What steps must be undertaken to assure its sustainability after the project period is over? Would the forest department or the JFMC be interested in its conservation or would it be again be subjected to “tragedy of commons”? To answer these questions, first and foremost, the need is to have consensus over the term “meaningful participation” which becomes all the more important in afforestation programs. The grass distribution mechanism adopted by the JFMC in third year of implementation of the program can be one of the solutions to the problem. It was realized that without at least a full time protection worker neither the JFMC nor the forest department would be able to protect the rehabilitated forest area from encroachers, free riders and offenders. It was also realized that neither the community would pay nor would the forest department be able to put one protection worker (unavailability of funds), after the project period. Therefore, to ensure sustainability to the resource it becomes imperative **that forest resource generates its own resources**. On the other hand, availability of grass from the forest area meant survival to cattle stock of the marginalised section of the society. Recognizing, importance of both the factors the JFMC decided to **auction good grass producing areas and allowing grass from the remaining area to be allowed to cut free to the members of the JFMC**. The money earned from the auction is set aside for provision of protection worker after completion of the project. This one hand has ensured continuous flow of funds for protection and on the other hand, provide benefit of grass to its members. **Therefore, participation of members of the JFMC in any afforestation program should be judged through concrete action/s taken by villagers towards ensuring protection and sustainability of the resource.**

## **Conclusions**

The study recognises the secretary, chairman and vice-chairman of the JFMC to be key persons for success under Joint forest Management regime. In afforestation program where plantation or restoration has been undertaken on encroached forest areas, the active role of key players becomes imperative. There is thus need to **strengthen the institution** by :-

- Paying honorarium:- To account for the additional efforts put in by the Chairman/vice-chairman (in implementation of NAP) and make them more accountable, there is need to pay them a monthly honorarium.
- Providing flexibility:- In selection of Chairman/Vice-chairman. One of the two should not necessarily be a woman.
- Empowering F.G:- Protection of forest guard from local political pressure. The same forest guard should be posted in the area for the entire project period. Ensuring residential quarters (Naka) for the forest guard.
- Empowering FDAs/District level forums:- to address issues related to forest offences and to provide legal support to community members.
- Evaluation of participation:- shall be done based on measure taken by the community to ensure sustainability after completion of the project period.

## **Strengthening the afforestation effort**

The study clearly suggests why few offenders and encroachers repeatedly do damage to the afforested area. Therefore where afforestation activity have been undertaken under the encroached land, measures such as establishing boundary pillars shall necessarily be undertaken along with other measures such as renewing of TCM, establishing live hedges (two year in advance), cement pillars and barbed wire. The guidelines for implementation of NAP states that the mode of fencing would be social fencing and that it should only be undertaken wherever utmost necessary. This has been deterrent to the implementation agencies in utilizing the fund for fencing. Fencing can be used effectively to protect the forest not only from cattle but also from the damage done by encroachers.

## **Acknowledgements**

The Author would take this as an opportunity to thank Shri Javvad Hasan (Chief Conservator of Forests) and Shri B.K.Singh (Conservator of Forests) to whom the author owes a profound sense of gratitude for providing author the opportunity to work as Project Coordinator in Forest Development Agency, Sehore.

The Author is extremely thankful to Shri C.S.Mann, C.E.O FDA and D.F.O (T), Sehore, for his valuable support and discussions with the author during the course of implementation of the program and during the course of this study. Thanks are also due to the staff of forest department in Sehore and particularly in Forest development agency for all their support during implementation of the program and during the course of the study.

Author is thankful to Winrock International India for funding this study.

Last but not the least, author would like to thank the Dablamata Village Forest Committee for extending their support during authors stay and visit in the village.

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***Brief description of association***

*The author have been associated from the beginning of the program up till August'2005. The author have initiated awareness and orientation program to the staff of Ichhawar range and to the members to the Dablamata VFC. The author prepared participatory rural appraisal and microplan of the village. The author has actively participated in the village meetings held from time to time.*

*The author has worked for about three years as project coordinator of Forest Development Agency, Sehore. As project coordinator of the agency the author has been actively involved in planning, implementing, monitoring and reporting various activities carried out by the agency. The author has very closely observed the issues documented in the study during implementation of the program and finds them necessary and prerequisite for strengthening Joint Forest Management Committees for successfully taking up afforestation in degraded and encroached forest areas.*