

A CASE STUDY OF JOINT FOREST MANAGEMENT IN ANDHRA PRADESH

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Introduction

Andhra Pradesh (AP) Forest Department is implementing the Joint Forest Management (JFM) programme since 1994. Till date 6,575 Vana Samarakshana Samities (VSS) have been formed in the entire State which are protecting 16.5 lakh hectares of forest with the help of 13 lakh people, mostly from the weaker sections of society, living in and around remote forests. In the beginning, during 1994 and 1995, there was a lot of resistance, both from the foresters and the people, to take up JFM programme. There was suspicion in the minds of the people living in forest fringe villages that the Forest Department, which had been booking cases against them, would never part with their power and authority and, therefore, no benefit would come to them. Similarly, the Foresters had considerable doubt on the integrity of the people to protect the forest and many of them felt that the partnership with people may lead to accelerated degradation of forest. It took lot of effort from a band of dedicated officers and local NGOs to change the mind set of both the parties. Once a breakthrough was achieved in bringing the people and Foresters together in certain pockets, there was dramatic improvement in rest of the places. Today the people, especially the tribals, feel most comfortable with JFM programme

as there is no harassment to them, the degraded forests are regenerating, employment is created at door step and there is hope for the future. The relation between the Foresters and the people has undergone a major improvement. In most of the VSS, the Forest Beat Officers (Forest Guards) and Section Officers (Foresters), who are directly responsible for the protection of forest, are in a very happy position as most of the forests under their control are not only protected by the people but they are also respected in the villages. The villagers are no more afraid of the khaki uniform. Both the people and the Foresters, are moving together in complete understanding. This article gives a presentation of a case study of Pothubandapalem VSS, Vepadu Mandal, Vizianagaram District, (Andhra Pradesh), which shows the change brought about through JFM.

Condition of forest before JFM

It was a dense forest with varieties of flora and fauna which was systematically exploited by a forest contractor by name Bonusunni, hailing from Visakhapatnam, who was given the right to remove the forest produce through permit system - lamented Shri Vuggina Ramudu aged 82 years, a resident of Pothubandapalem village who has been witnessing the

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deforestation since 1935. In spite of removal of forest produce by the contractor, Ramudu has seen good forest containing *Tectona grandis*, *Terminalia tomentosa*, *Tamarindus indica*, *Cassia auriculata*, *Sapindus emarginatus*, *Terminalia chebula*, *Emblica officinalis*, *Terminalia bellerica*, *Feronia elephantum*, *Bridella montana*, *Sterculia urens* etc. in these forests up to 1951. The forest had plenty of wild animals such as Wild boar, Hyena, Peacock, Python, Cobra, Tiger and numerous birds. The removal by contractor continued year after year till most of the valuable trees were cut and removed. The degradation of forest was almost completed by 1964 says Ramudu. Thereafter, it was almost free for all. All the neighbouring villagers, including Pothubandipalem, Seethampeta and others continued the removal of the left over trees and coppice shoots, coming out of the stumps, till almost the entire forest area become devoid of standing vegetation excepting some forest on the upper reaches.

The condition of forest described by Shri Ramudu is confirmed by the past management of forest described in the Working Plan of erstwhile Visakhapatnam North Division, which included the present Vizianagaram Division. Prior to Estate Abolition Act, 1948, these forests were managed by the Zamindars. At the time no proper management of these forests existed. The permit system was in vogue. Any quantity of forest produce could be removed from the estate forests without any restriction or felling rules as long as the seigniorage was paid. Thanas (check posts) were established at the exit points from the forest to collect seigniorage. Shri V.S. Kuppuswamy, District Forest Officer, Visakhapatnam wrote in February 1936 - "Removal of fuel as with everything else

from the forests is now by permits and contract system. Whatever be the system in force, the removal of produce taking place from all accessible areas has worsened the conditions so much so that the reserves abutting Visakhapatnam have fallen denuded".

Pothubandapalem VSS

Pothubandapalem village is in Vepada Mandal of Vizianagaram District in Andhra Pradesh. The village consists of 33 tribal families of Manyam Dora, a tribal community. Total land holding is 11.3 acres of wet land and 4.5 acres of dry land distributed among 13 families. The remaining 20 families are landless poor. Due to denudation of Forest and consequent cycle of floods and drought the agriculture was unsustainable. Hence forest was the only source of survival for these 33 families.

Prior to the formation of VSS under the JFM programme almost all the families from this village were selling fuelwood and poles from the forest to the nearby villages of Vallampudi, Seetharampuram and Budiwala - says Shri Juttada Ramannadora, the young chairperson of this VSS since 1995. The VSS was formed in November 1995, preceded by several round of discussions, covering 250 hectares of degraded forest land in compartment No. 268 of Marika Reserved Forest, excluding the higher reaches. However, actually the VSS is protecting 336.38 ha upto the ridge portion. Shri B. Shivaji belonging to "Harithamitra" a Non-Government Organization is associated with this VSS and constantly encouraging the people to protect and develop the forest. At the time of formation of the VSS almost the entire forest excepting the upper reaches looked open with rocky outcrops

and boulders. The soil was impoverished and no forest worth the name was visible - says the young chairperson which other members also endorse.

Activities taken in VSS

After the formation of VSS, number of meetings were organized and a Micro-plan was drawn. Several activities were taken up to improve the condition of the forest since 1996. It includes soil and moisture conservation works like construction of check dams, rock fill dams, stone bunding, contour trenching, gully plugging, water harvesting structures etc. Plantation of Bamboo was started in 1996 and continued till 1999. 250 hectares has been treated since 1996 at a cost of Rs. 9.00 lakhs providing work for about 200 days to all the families for the last 4 years. The system of working followed was - a copy of the estimate of approved action plan was handed over to VSS. The amount required to carry out the work was deposited in the joint account between the President of VSS and local Section Officer of Forest Department. After the work was completed, a resolution was passed by the Managing Committee

authorising the President to draw funds. The muster roll of the members engaged in the execution of work was maintained by the VSS. The amount drawn was equally divided among each member, paying equal share to men and women as per the muster roll. Due to the transparent system of working the people have developed faith on the Govt. working. The villagers feel it is their own work and hence take keen interest. Bamboo plantation was taken up extensively in addition to the plantation of *Albizia odoratissima*, *Terminalia arjuna*, *Syzygium cumini*, *Embllica officinalis*, *Azadirachta indica*, *Bixa orellana*, *Sapindus emarginatus*, *Pongamia glabra*, *Tamarindus indica* and *Anacardium occidentale*.

The Bamboo plantations have been surveyed, culms enumerated and detailed account has been maintained in the VSS. Whenever clumps have put on good growth the clump is numbered and number of culms in the clump has been written on the nearby stone.

The result of enumeration in Bamboo plantation is given in Table 1.

Table 1

Enumeration in Bamboo plantation

Year of plantation	No. of clumps formed	Average height (m)	Average No. of culms per clump	Average dia. of the culms (cm)	Harvestable Bamboo anticipated (Nos)
1996	3500	3.50	22	12.5	40,000 during Yr. 2000
1997	7500	3.00	10	10.0	75,000 during Yr. 2001
1998	11000	2.75	6	8.0	Yet to be assessed
1999	16000	Clump formation is still taking place			Yet to be assessed

It is important to note that no bamboo was occurring in this forest at the time of formation of VSS. All the bamboo forest seen now is as a result of plantation done since 1996. The growth and coverage of degraded land by bamboo is excellent. The credit goes entirely to the VSS members who have been pains to see its proper establishment. The members are now looking forward for the first harvest in October - November, 2000 when they will start selling the produce and expect an income of Rs. 2.5 lakhs. The future production and sale value of bamboo is expected to go up substantially. The earning can go up further if instead of selling whole bamboo, it is made into bamboo product such as basket for which there is good demand for packing mangoes. Effort is being made to give them training to make bamboo based articles.

In the year 1996 in addition to bamboo 500 cashew seedlings were planted along the periphery of the VSS boundary. 450 cashew plants have established and 100 cashew trees have come to yield for the first time during the year 2000. The expected cashew fruit from these 100 trees have been purchased by Shri Demulu a VSS member for Rs. 2000/-.

Income from NTFP

The enquiry with VSS members revealed that the forest in the upper reaches provide varieties of Non-timber Forest Produce (NTFP). The important among them are - *Tamarindus indica*, *Sapindus emarginatus*, *Emblica officinalis*, *Terminalia chebula*, *Sterculia urens* etc. Due to complete protection of forest by the VSS since last four years the crown is developing.

Therefore, the yields of usufruct are going up steadily. Moreover, prior to formation of VSS these NTFPs were free for all including the people coming from far of villages. Most of the time the people were in a hurry to pluck the fruits/leaves and harvesting method was destructive. Some times the people used to fell the trees or cut the branches to collect the usufruct. The fruits were harvested before it matured fearing that others may collect it. There was unhealthy competition for the collection of NTFPs. After VSS formation the NTFP is exclusively harvested by the VSS. The VSS members are not allowing outsiders to come. The fruits are allowed to mature. The harvesting is without spoiling the tree. Hence their share and income has gone up which is expected to go up further each year as the forest regenerates and crown development takes place. The estimated yield at present is as follows :

Tamarind (Tamarindus indica) : Total production was about 300 kg out of which 50% was kept for the self consumption and the balance was sold for Rs. 2,000/-.

Usiri/Amla (Emblica officinalis) : About 100 trees are yielding fruits @ 20 kg. per tree or 2000 kg. It was sold @ Rs.2/- per kg. giving an income of Rs.4,000/-. There are many smaller trees coming up. Therefore, the future yield is expected to rise substantially.

Karaka (Terminalia chebula fruit) : 500 kg were collecting and sold @ Rs.7/- per kg or Rs. 3,500/-. There are large number of trees regenerating naturally but the crown is not well developed. However, the VSS member are confident to get good yield in future.

Tapasi (Gum) (Sterculia urens) : There are about 5000 trees but the yield is very low.

Plate 1



Forest under Pothubandapalem VSS

Plate 2



VSS Members under Cashew tree that has come to harvesting

Plate 3



VSS members under the Tamarind tree

Plate 4



VSS women members drying Tamarind and Amla collected from the forest

Bauhinia purpurea

While moving in the forest along with the VSS members we came across *Bauhinia purpurea* a plant locally known as 'Bodanki'. It is a moderate sized tree forming an under story in the dry deciduous forest. Between April to November the light green coloured leaves, when they are just about to open, are plucked for the preparation of curries by boiling the leaves mixed with spices. Sometimes *B. purpurea* leaves are added to sambar (South Indian Cuisine). The tender leaves usually sprout with pre-monsoon and post-monsoon shower. This leafy vegetable is available to the local tribals for about six months in a year.

However, once the tender leaves are plucked it takes another five days for the fresh tender leaves to be ready for second collection. These trees were also fast disappearing due to continuous hacking of trees for the collection of fuel wood for sale by the VSS members and others. After the formation of VSS this tree is protected and the yield of leaf for local consumption is increasing.

There are several such minor forest produce which are not known to the Forest Department but have a significant value from the point of view of the livelihood of the poor people dependent on forest.

The VSS members do not know the scientific method of collecting gum. The chairperson is the only man trained by the Girijan Co-operative Corporation, Vizag. At present the collection is about 80 kg and sold @ Rs. 125/- per kg. Present income is Rs. 10,000/-. However, once the people are trained and trees grow there is going to be substantial income from gum alone that can make this VSS sustainable.

Soapnut (*Sapindus emarginatus*) : There are about 700 trees but the income is meagre - Rs. 2,500/- as the crown is not well developed of poor management in the past.

Therefore, at present the annual income from NTFP is meagre (about Rs. 23,000/-). However, this income is likely to go up substantially with good protection of trees and consequent development of the crown coupled with employing proper

method of harvesting. The income can further increase if certain value addition activities are taken up. For example, Tamarind (*Tamarindus indica*) is sold after deseeding @ Rs. 25/- per kg, whereas Tamarind fruit with seed is sold at Rs. 7/- per kg. Taking 2 kg of seeded Tamarind to produce one kg. of deseeded Tamarind (this conversion is based on local enquiry) the people can expect an income of Rs. 12.50 per kg in place of Rs. 7/- now. Similarly, *Emblica officinalis* can be dried and sold. At Hyderabad market, it is Rs. 20/- per kg whereas VSS is selling at Rs. 2/- a kg. Therefore, value addition with better marketing of NTFP is bound to change the economy of these poor tribal people who are finding the forest as a source of their livelihood.

Before the formation of VSS the tribals had cleared five hectares of forest land and

Podu cultivation and JFM

'Podu' cultivation or encroachment in forest land for cultivation is a major problem in Andhra Pradesh. Whereas a degraded forest can be regenerated through tending of root stock or through plantation but once the land is occupied for cultivation it is very difficult to regain the forest. In A.P. State about 3,30,000 ha of forest land is under Podu cultivation. The rate of conversion of forest land into Podu cultivation was going on @ about 11,000 ha per year since 1980, inspite of the Forest (Conservation) Act 1980. Since this conversion of forest land for non-forestry purpose was resorted to unofficially, the provisions of F.C. Act could not be applied. Forest Department was unable to solve this problem as extremist elements were supporting such conversion. The maximum forest land under Podu cultivation is in tribal areas. The Tribal Welfare Department was giving support to Podu cultivation by giving inputs to the tribals for the development of agriculture.

The introduction of Joint Forest Management (JFM) has brought back the people's faith in forestry and changed the scenario. Already in last three years about 36,000 hectares of Podu land has been brought under tree cover by the Vana Samrakshsana Samities (VSS). The new encroachments have almost stopped in all the 6,575 VSS. The issue of Podu cultivation was discussed in the Planning Commission. The Planning Commission has suggested Agro-forestry model for such lands. Negotiations are going on with Industries to support agro-based products on Podu lands that can give sustained livelihood to the people dependent on Podu cultivation.

The Government of Andhra Pradesh have issued orders to bring all Podu lands under JFM and to take up plantation programme of forest species that can give regular income through harvesting of usufructs. The choice of species is to be made after due consultation and complete agreement with the VSS. Demonstration plots of high yielding plants have been taken up, including cultivation of medicinal plants. The approach of the Forest Department is to first convince the people about the economic viability of reverting Podu lands into forest plantations and simultaneously safeguarding the livelihood of the forest dependent poor before changing the land use pattern. More and more VSS are coming forward to plant NTFP species, medicinal plants and other high yielding Clonal plants on the Podu lands. Thus what could not be achieved through draconian Acts and Rules governing the protection of forest land is now being achieved through JFM.

were doing Podu cultivation. The villagers have given up Podu cultivation and planted this area. Now there is no Podu cultivation in the forest under the control of this VSS. During their visit to other VSS they have seen good income from broom grass. Broom

grass was not existing in this VSS.

The members have brought the broom grass slips from Madugula village, 50 km from here, and planted it in the forest. The grass has established with 100% success.

The villagers have identified twenty one species of medicinal plants and another 27 forest species in the forest. Some of the species are regenerating naturally due to good protection, and soil and moisture conservation measures.

Improvement in Vegetation

Forest Cover : The Satellite image of the forest area under protection has been compared between 1996 and 1998. For this analysis the satellite images were obtained from National Remote Sensing Agency, Hyderabad. After geo-referencing the images were classified based on signatures of different density of vegetation. The

classified maps were verified on the ground and necessary corrections were incorporated. The statistics of vegetation status of the forest being protected by the VSS is given in Table 2.

The analysis in Table 2 is a clear indication of the improvement in forest cover. Recent visit to the forest showed even better improvement than what is indicated by 1998 satellite image.

Forest Regeneration : A sample survey conducted in the VSS area by laying sample plots in the treated areas and untreated areas. The result of survey is given in Table 3.

Table 2

Vegetation states of forest being protected by VSS

Year	Dense Canopy forest (ha)	Open Canopy forest (ha)	Scrub forest (ha)	Blank (ha)
1996	22.18	221.18	82.31	10.71
1998	31.00	232.30	67.62	5.46
% change	(+39.2%)	(+5.02%)	(-17.8%)	(-48.95%)

Table 3

Sample survey results in VSS area

Regeneration status	Nos. per hectare			
	Seedlings	Saplings (less than 15 cm girth & more than 2 m height)	Poles (more than 15 cm Girth)	Total
(a) Untreated area	231	155	145	531
(b) Treated area	926	623	578	2127
Total	695	468	433	1596
Increase in treated area over untreated area	300%	302%	298%	300%

The data is self explanatory showing a vast improvement in the regeneration status because of JFM programme.

Tribal Development Plan

Tribal Development Plan (TDP) has been taken up in order to ensure that tribals dependent on forest are not deprived of their livelihood due to introduction of JFM when the forest is closed for the purpose of regeneration. People selling fire wood and other forest produce should be given alternative source of livelihood. Therefore, apart from providing employment in the forestry programme, some additional activities were taken up under TDP. Three water harvesting structures, to augment the water availability to the agricultural fields of VSS, one road connecting the hamlet to main road, two drinking water bore wells, smokeless chullahs to all the families, supply of grafted mango, coconut and teak stumps for planting in their fields, improved agricultural implements, sprayers, sewing machines etc. have been provided. This approach of taking up certain development programme in tribal areas have made tremendous impact on their economy and the relation between the Forest Department and the tribal community. What the tribals, living in remote forest areas, could not get through the Tribal Welfare Department in last twenty five years has been provided by the Forest Department through TDP after introduction of JFM.

Impact of JFM

The formation of VSS has changed the life style of these tribals. They have regained their forest and work day and night to protect it. Similarly, the wild life is fully protected resulting in the increase in wild life

population. Migration in search of work was a common phenomena before introduction of JFM. Now nobody goes out for work. Sale of fuelwood by cutting the forest has been totally stopped. Their own consumption of fuelwood has come down drastically (more than 50%) because of smokeless chullahs supplied to each house hold. No tree is felled for meeting fuel wood demand. Collection of fallen branches and dry twigs are good enough to feed the smokeless chullahs. There was no school in the village. Only 10 children were going to Dabbirajupeta village, 2 km away, to attend the school. After formation of VSS, a Community Hall was constructed for meetings etc., which was also used for schooling in the day time.

Subsequently the Govt. constructed a new school building. Now all the school aged children, numbering 25, are attending the school. 3 boys are attending high school at Vepada Mandal headquarters. The subjects of family planning and education is discussed in VSS meetings regularly. The villagers are motivated to adopt small family norm. Out of 33 families - 10 women and 4 male members have undergone family planning operation. The women are conscious to limit their family size and send the children to school. There are two thrift groups, each having 15 members in which Rs. 10,000/- each is saved. This amount is being given to the members on loan charging interest @ 2% per month. This has saved the VSS members to go to money lenders who were charging interest @ 10% per month. A hamlet that was totally neglected is now witnessing a transformation due to JFM. The District Collector, Project Director, District Rural Development Agency and many other senior officers are visiting the hamlet. The district administration has sanctioned Rs. 2.5 lakhs

to widen the approach road so that bus can come up to the hamlet. The visit of senior forest officers is very common. This has changed the attitude of the people towards the government. They are no more neglected tribals but in the main stream of administration.

Sustainability of JFM

During the discussion with the VSS members, they were specifically asked to comment about what would happen if the external funding for JFM programme is stopped. Will they again resort to selling of fuel wood and denuding the forest? The reply was prompt and loud with conviction that now the question of destroying the forest does not arise. Funding or no funding, they shall not allow the forest to degrade. It is no more the forest exclusively belonging to government but the villagers feel it as their own. The NTFP yield is likely to increase. From next year bamboo plantation would be giving at least Rs.2.5 lakhs of income which is expected to increase rapidly as more and more bamboo plantations come to maturity. They can now sustain without external funding. This confidence among the people is the strength of JFM programme and its sustainability. If similar conditions can be created else where, there is no doubt the Vision of Swarna Andhra Pradesh, which has been planned to be achieved by the year 2020 would be achieved earlier than 2020.

Conclusion

The JFM programme was taken up as per the 1988 National Forest Policy. Government of India issued the guidelines for its implementation on 1st June 1990. As on today 22 States have passed orders to adopt JFM as a strategy to regenerate the

Vision 2020

The Govt. of Andhra Pradesh has prepared a Vision Document known as 'Vision 2020 for Swarna Andhra Pradesh'. The Chief Minister's dream is that Andhra Pradesh should be a State where poverty is totally eradicated; that every man, woman and child in the State should have access, not just to basic minimum needs, but all opportunities to lead a happy and fulfilling life and emerge as a knowledge and learning society - based on values of hard work, honesty, discipline and collective sense of purpose. JFM is the strategy of the State towards Swarna Andhra Pradesh.

degraded forests. Although we are completing one decade since Government of India issued the first guidelines on JFM, so far only 10.24 million hectares of forest land has been brought under the Management of 36,075 committees. The degradation of forest is still continuing. There is still doubt in the minds of the Foresters about the type of forest to be included in the JFM Programme. Although Government of India has recently allowed the inclusion of dense forest in JFM Programme vide their letter No.22-8/2000-JFM (FPD), Ministry of Environment & Forests (Forest Protection Division), dated 21st February 2000, but the approach seems to be cautious. The protected areas continue to remain outside the ambit of people's use although there is a strong case to permit the collection of NTFP and allow people's participation. Most of the states are not able to believe the people. They have several apprehensions about the people's

participation in the protection and development of forests. However, the case study clearly brings out how degraded forests can be transformed into good forests that will take care of the biodiversity as well as livelihood of the poor people directly dependent on forest, and can also be sustainable. In A.P., the biggest problem of managing 6,575 VSS lies in funding the forestry programme in all these villages. There are more people coming forward to protect and develop the forest but funds are the biggest constraint. This is high time when JFM should be taken as a part of Rural Poverty Alleviation programme at the national level. Special funds must be assigned to villages dependent on forest for forest development through JFM. The proposal of the Ministry of Environment & Forests (MoEF) to create a Forest Development Agency (FDA) similar to that of District Rural Development Agency is a

step in the right direction. However, launching of FDA is being delayed. Although the Planning Commission seems to be convinced of the usefulness of such a programme, the details are yet to be finalized. Similarly, the strategy of Tribal Development Programme has been the development of agriculture rather than the development of forests on which the tribals depend. The case study has shown that tribals living around the forest would be better off if the tribal development policy includes the development of forest around the tribal habitations rather than developing agriculture on Podu lands. The MoEF needs to take up these issues with the Planning Commission and other Ministries. Forest development should be considered as a source of livelihood for the poor living in and around the forests while serving the global requirement of biodiversity and environmental stability.

SUMMARY

Based on the 1988 National Forest Policy, the Joint Forest Management (JFM) Programme has been taken up in different States. Andhra Pradesh is one the leading States implementing JFM over 16.5 lakh hectares by forming 6,575 Vana Samarakshana Samities (VSS). The case study of one VSS in Vizianagram District (Andhra Pradesh) has been presented to show how the people and the forests have benefitted from the JFM Programme. The paper also deals with the difficulties in funding the Programme and it is suggested that JFM should be taken up under poverty alleviation programmes of the Rural Development Department. In tribal areas, JFM should be considered as one of the strategies for developing the tribal economy instead of depending upon agriculture alone.

आन्ध्र प्रदेश में संयुक्त वन प्रबन्ध का एक विशेष अध्ययन

एस०डी० मुखर्जी

सारांश

1988 की राष्ट्रीय वन नीति के आधार पर संयुक्त वन प्रबन्ध कार्यक्रम को विभिन्न राज्यों में आरम्भ किया गया है। आन्ध्र प्रदेश का वन विभाग संयुक्त वन प्रबन्ध कार्यक्रमों को 6575 वन संरक्षण समितियाँ बनाकर 16.5 लाख हेक्टेयर से अधिक क्षेत्र में शुरू करा कर क्रियान्वित करने वाले अग्रणी राज्यों में आता है। विजयनगरम जिले की वन संरक्षण समिति का यह विशिष्ट अध्ययन यह दिखाने के लिए प्रस्तुत किया जा रहा है कि जनता और वन विभाग दोनों को इस कार्यक्रम से कैसे लाभ पहुँचा है। इस अभिलेख में इस परियोजना के लिए धन जुटाने में आई कठिनाइयों का भी वर्णन किया गया है तथा यह सुझाया गया है कि संयुक्त वन प्रबन्ध को ग्राम विकास विभाग के गरीबी उन्मूलन कार्यक्रमों के अन्तर्गत लिया जाना चाहिए। आदिवासी क्षेत्रों में संयुक्त वन प्रबन्ध को जनजाति अर्थव्यवस्था को केवल मात्र कृषि पर निर्भर बनाने के बजाए उसे विकसित करने की एक समरनीति की तरह लिया जाना चाहिए।