

**DEFORESTATION AND SUSTAINABLE LIVELIHOOD  
OF TRIBAL COMMUNITY: A STUDY IN BETNOTI BLOCK  
OF MAYURBHANJ DISTRICT**

Jeeban Jyoti Mohanty

Consultant at SIDBI, Lucknow HO and Ph.D Research Scholar, Department of  
Economics, Ravenshaw University, Odisha, India.

**ABSTRACT**

There is a symbiotic relationship between the forest and the forest dwellers since centuries. Not only the forest has provided various livelihood opportunities to the tribal as well as non-tribal living in and around but also the forest dwellers have taken care of forest resources. There has been a sense of emotional attachment towards the forest by these dwellers. But with course of time this mutual relationship between the forest and the forest dwellers has been disturbed due to massive deforestation and changing forest policies. In view of this scenario the study was carried out in a village of Mayurbhanj district in Odisha with the objectives to study the nature and degree of dependency of forest dwellers on forest and its change over time and to understand the people's perception and expectations on forest related livelihood. Different methodologies have been used to satisfy the various objectives of the study. To understand the macro factors affecting the forest related livelihood, secondary data from district as well as block level were used. The primary data collected from 300 sample households through questionnaire method are used to know the actual situation and ground realities regarding deforestation and forest related livelihoods.

The study village Saitpur in Betnoti block of Mayurbhanj district is surrounded by the forest and dominated by two tribes Bhumija and Santhals. The sustainability of forest related livelihood has lost with the passage of time. Their dependency on forest is gradually declining. Due to massive deforestation, the availability of NTFPs is showing a declining trend which in turn affecting the life and livelihood of various forest dwellers living in the village. 67 % of sample households are exclusively dependent on collecting and selling of NTFPs such as sal leaf and mahula flower. This livelihood is no more sustainable according to people's perception and the findings of the study. The indicators of sustainability are the average time taken, distance travelled and the quantity of product collected per day. Deforestation has also affected the agriculture as forest has a greater role in establishing ecological imbalance. Because of deforestation irregular rainfall

have been observed in past few years. In present scenario it is not even possible to cultivate a single crop properly. But the trend is regressive, as the wage labour where the people are diverting their occupation is not secured. There is no certainty of getting work and also vulnerability is associated with it. The dependency on forest of the tribal community has been analyzed on the basis of proportion of Income earned from forest. Almost every family in the village is seasonally dependent on various forest items for household consumption. The study focuses on widow and distressed tribal families depending heavily on forest who have no alternative livelihood opportunity. The findings on nature and degree of dependency of tribal community on forest and its change over time based on the people's perception and expectations on forest related sustainable livelihood have lot of policy implication.

**Keywords:** Deforestation, Sustainable Livelihood, Tribal Community, Mayurbhanj District.

## **1. INTRODUCTION**

Forest has been an important source of livelihood for forest dwellers since centuries. The communities living in and around the forest are directly or indirectly dependent on the forest resources for their survival and subsistence. They are not only attached to forest for economic benefits but also culturally. There is symbiotic relationship between forest and forest dwellers since centuries. Forest is an unavoidable part of their life. But in the changing scenario where the forest coverage has declined and there is change in state policies regarding Tribal Right over forest as well as Forest Protection, the nature and degree of their dependence on forest are changing day-by-day. The forest centered livelihood activities of the communities in close proximity to the forest have been severely affected due to massive deforestation. The forest management policies of the government have also impact on the livelihoods of the forest dwelling communities. In many cases tribal communities living inside and nearby the forest are compelled to evacuate their native place. Because of this evacuation their social as well as economic life pattern has changed over time.

There are wide causes and consequences of the high rate of deforestation. Sustainable use of forest resources in terms of utilisation and regeneration has been badly affected because of population pressure and market driven economy. In this market economy forest resources have been harassed through fulfilling the market demands. The extent of exploitation of forest resources by different categories of users is different in nature and extent. There is need of proper management of these resources so as to ensure the capacity of forest to meet the needs of present time as well as the future demands. Deforestation has also impact on environment and eco- system. Because of deforestation ecological imbalances have been reported which is affecting the economics and livelihoods of the communities. There are various explicit and implicit factors how deforestation has affected the lives of forest dwelling communities. For

understanding all these issues related to the deforestation and sustainable livelihood of tribal community a study has been taken in Betnoti block of Mayurbhanj district.

## **2. METHODOLOGY**

### **2.1 Objectives of the Study**

Looking various aspects of relation between deforestation and sustainable livelihood of tribal community, a study was required to understand the current scenario i.e. how far and to what extent this relationship has been affected because of change of forest coverage, State policies and Economic policies. More than this how the lives of the tribal communities have been affected with the passage of time. There are various explicit and implicit factors related to this issue. With this backdrop, the objectives of our study had been stated more precisely as follows:

1. To study the nature and degree of dependency of forest dwellers on forest and its change over time.
2. To know the perceptions of the tribal community with regard to improving their livelihood systems.
3. To understand the people's perception and expectations on forest related livelihood.

### **2.2 Data collection process and Sources**

The study involves both formal and informal interaction with the individual tribal community, focused group discussion with the forest dwellers and interview schedule were used for data collection. Both qualitative and quantitative data were obtained from different section of tribal community.

Informal interactions with the staff of Forest Department, VSS member, village sarpanch and member of SHG helped us to understand the role of forest for sustainable livelihood and getting further information regarding government policies affecting the forest based livelihoods.

### **2.3 Sampling Method and Sample Size**

To calculate the impact of deforestation on sustainable livelihoods, eighty households were chosen out of 198 household from Saitpur village of Betnoti block in Mayurbhanj. Betnoti block is situated 30 km form district head quarter and the study village is nearly 25 km from the block head quarter. For this stratified and random sampling methods were used. First, all the sahi/hamlet families were stratified into 4 divisions based on Primary occupation, Land holding, livestock rearing and head of the family has been taken as the basis for the stratification. Then samples were randomly taken from each of the 4 divisions.

Sample size was based upon the proportion of the stratum in the whole village. From each sample, data related to annual income and expenditure from various sources was taken. Thus collected data is used for the calculation of the percentage contribution of the forest based livelihood in the total annual economy of the village. For informal interactions and focused group discussions, no sampling techniques were applied. They were done with the available people at that time.

The data collected were tabulated and used to draw inferences. No significance test was conducted. However, more importantly the intensive interview provided deep insights and these were used as reinforcements to conclusions.

### **3. FOREST & SUSTAINABLE LIVELIHOOD OF TRIBAL COMMUNITY-ISSUES & CHALLENGES**

#### **3.1 Forest Resources**

Forest has been an important source of livelihood for tribal people since centuries. But gradually their dependency on forest is declining due to deforestation and the time-to-time changing policies regarding ownership and stake by government and forest department. The forest related tribal livelihood not only plays a role of safety net but it is also a livelihood-centred activity also. The livelihoods of forest dwellers including both tribal and non-tribal living in close proximity to the forest have been severely affected due to massive deforestation. The forest management policies of government have also added to the problem of these forest dwellers up to some extent.

In India the emphasis on revenue generation has been an important reason in overexploitation of forest resource. All the forest policies in both colonial and post colonial period have been achieved only at the cost of the forest dwellers and their life support system. Forest is now highly contested space, the arenas of struggle and conflicts where forest dwellers find themselves on the losing side.<sup>1</sup>

Forest as a renewable resource is not only summation of trees but also a whole of all living and non-living components, which supplies the basic needs including food, fuel fodder, fertilizers, water, shelter and oxygen. It also holds a deep cultural and spiritual significance. But deforestation constitutes one of the greatest crises affecting the life and livelihood of forest dwellers, which are mainly dependent on the forest resource. The forest management policies of

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<sup>1</sup> Mark Poffenberger & Betsy Mcgean (December 1996), VILLAGE VOICES, FOREST CHOICES: Joint Forest Management in India, (PP 22-23)

government have also added to the problem of these forest dwellers up to some extent. The problems related to forest and livelihood can be broadly categorize.

### **3.1.1 Problem of choice**

The important function of forests at the national or regional level is providing its physical products i.e. timber and non-timber products. The economy of a forest rich state and its agents such as forest based industries and forest merchants are primarily interested in commercial use of forests. These processes of larger economy operates with very little concern about the poor people who in the areas from where they take out these resources. The problem here is to priorities between multiple functions of forests with different groups having different stakes at different levels for these functions. In Odisha especially in Mayurbhanj the various forest dwellers have been severely affected by this problem of choice. In the study village Saitpur going through people's perception it can be said that the various families who are dependent on forest products for their livelihood are now finding difficult to acquire sustainable livelihood through forest resources. Going through people's perception it can be said that the earlier state policies for using forest as commercial item has affected them a lot. Due to commercialization of forest massive deforestation took place and when it was stopped by the order of Supreme Court, there was nothing in the forest on which these forest dwellers can depend.

### **3.1.2 Problem of sustainability**

The sustainable use of forest resources implies that the extent of exploitation of the forest resource by all categories of users has to be consciously managed so as to ensure the capacity of forests to meet the needs of future generation. The use of forest resources with an intra generational approach so that it could be conserved for next generation also has give rise to the question of sustainability as the forest cover along with the availability of its resources has been declining rapidly over time. In regards to sustainability the various dimensions were brought up by the people of Saitpur village shows the average distance travelled, time taken are increasing while the availability of different forest products is indicating a declining trend as compared to ten years back (Table 1). The illicit felling of trees by state trading division for commercial use as well as the primary dwellers for livelihood purpose are together responsible for this situation. Occupational diversification is one of the major impacts on these primary forest dwellers can be seen from secured to unsecured sector of non-farm labours. The households' dependent on the forest for income generation has been declining in the village over the period of time. This is one of the most important indicators that show forest is no more a sustainable source of livelihood.

### **3.1.3 Institutional problems**

The vital issue here is regarding stake and accessibility – by the state or the tribal forest dweller or the non-tribal forest dweller. The economic profit from the forest resource gives rise to conflict in terms of benefit sharing. Now the change in the attitude of the state forest department has helped to gain some confidence on the community. The concept of social forestry and the formation of village conservation committee have resolved the problem of benefit sharing that to only some extent.

### **3.2 Issues of NTFPs**

The issue of livelihood of forest dwellers is related to sustainable harvest of NTFP, which has negligible impact on the plants and trees in the forest. The NTFP are heterogeneous and dispersed. They are available only during particular session and exhibit considerable variation in their use. NTFPs not only adds important contribution to the income of the households but also used by dwellers for consumption purpose to gain nutrition. The depletion of forests due to massive deforestation has given rise to the threat of livelihood as well as nutrition for these forest dwellers.<sup>2</sup>

#### **3.2.1 Availability**

A large population of forest dwellers including both tribal and non tribal depends on NTFPs for food, fodder, fuel wood, fruits, housing materials, medicines etc. They have a role in providing life support system to some community especially tribal. The issue of livelihood of forest dwellers is related to sustainable harvest of NTFPs as they are available during particular season and exhibits considerable variation in their availability. The important NTFPs found in the village Saitpur are Sal leaf, Anla, Amla and mahula flower etc. Analyzing the people's perception and trend analysis it can be said that the availability of almost every NTFP has declined over the period of time. The most important finding is that the distance travelled by the collectors to collect these products has been increasing regularly (Table-1). On the other hand the quantity collected by them is gradually decreasing. The families who were earlier selling these products for income generation are now struggling hard to use it for the household consumption. Taking time into consideration the average time taken to collect the same quantity of product earlier has also increased over periods of time (Table - 1).

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<sup>2</sup> N.C. Saxena (August 2003), Livelihood Diversification and Non-Timber Forest Products in Orissa: Wider Lessons on the Scope for Policy Change, Working Paper 223, (pp-4)

**Table -1: Average Distance and Time spent to collect forest product at two point of time.**

Sl. No	Forest Items	Average distance covered per day (In KM)		% Of additional distance covered after 10 years	Average time spent per day (In Hours)		% Of additional time spent after 10 years
		2002	2012		2002	2012	
1	Sal Leaf	1.5	6.5	333.33	1	1.5	50
2	Mahul Flower	2.5	4.5	80	2.5	3.3	32
3	Anla	0.5	3.5	600	1.3	2	53.85
4	Danta Kathi	0.5	4	700	3.5	4.5	28.57
5	Amda	0.5	2.5	400	0.5	2	300
6	Mushroom	2	4.5	125	1.5	2.5	66.67
7	Mango	1	8.5	750	0.5	1.5	200
8	Tamarind	1.5	5	233.33	1	2.5	150
9	Bery	0.75	3	300	2	4	100
10	Fire wood	1.2	5.5	358.33	1	2.5	150

Source: Field Study

With the increasing distance, time and decreasing quantity the forest dwellers in the village are compelled to diversify their occupation. Earlier these dwellers depend fully on NTFPs for income generation and household consumption but now these families are moving towards non-farm labour sector.

### 3.2.2 Women and NTFPs

Since NTFPs are essential for tribal households' well being, it follows that any program or policy to encourage community involvement in forest management will have to consider the role of women. A gender sensitive co-management strategy accounts for gender differentiated activities, property rights, negotiation and forest resource claims, and places them within the context of a web of social relations. Furthermore, focusing exclusively on women obscures their relations with men, implying that women's and men's resource-management activities proceed along isolated, parallel tracks."

Women are the main collectors and traders of sal leaf and mahul flowers in the study village. After going through the interviews and several discussions the study found that these women

include the middle age ranging from 35-45 age group. The male members in the family and the girls usually go for labour work. The middle age women are involved in collecting several NTFPs and firewood for household as well as for selling purpose. In male-headed family the women generally collect these products for household consumption. But in female-headed families the collection of NTFPs is mostly for income generation. From the interview conducted among the sample households it was found that in male-headed families only 32.38% of the families depend on forest for income generation while the rest 58.68% of the families depend on forest and NTFPs for consumption purpose. On the other hand in female-headed households almost 67.62% of the families depend for income generation and only 41.32% depend only for consumption purpose. (Table-2) These women whose only source of income is from forest used to sell all the products in nearby Betnoti and Dantiamuha haats instead of consuming it at home. The selling of danta Kathi, Sal leaf, mahul flower etc are the major practice done by female-headed families.

**Table -2: Percentage distributions of income (Gross Annual) and consumption items (in money value) of sample households from forest by Family head.**

Sl.No	Family Headed	Purpose		Total
		Income	Consumption	
i	Male	32.38	58.68	41.47
ii	Female	67.62	41.32	58.53
	All	100	100	100

Source: Field Survey

### 3.3 Forest and Sustainable livelihood

Forest resources are not only important for maintaining the ecological balance but also play an important role in the economic development of the nation. Forest and environment are major source of natural capital and the contribution of social capital to development of forest dwellers society seems to be important. The depletion of forest resources and the marginalisation of forest dwellers is a major concern now days.

Tribal community and forest dwellers depend on the forest for their survival and livelihood from very past. Still now this dependency is present. We can categorise their dependency on forest under following categories based on the use of the products:

(i) Own household consumption

(ii) For selling purpose

(iii) For both household consumption and selling

Collection and marketing of various forest products are source of livelihood for tribal as well as non-tribal forest dwellers. However the extent to which these livelihood conditions materialise in practise varies from situation to situation among households in particular situation and over time. In Saitpur nearly 75 households leaving in close proximity to forest since centuries are now compelled to diversify from their primary occupation of NTFPS and firewood collection to non-farm labour sector. The sustainability of collecting forest produces by the forest dwellers can be determined on the variables like average distance travelled per day, average time taken per day and the quantity collected at two points of time. The forest dwellers in the village are now taking much time and more distance they have to cover comparatively ten years back. Also the quantity collected by them is relatively lower than before (Table-1). The dependency on forest has also reduced. Only the landless and female-headed families are now regular dependents on forest for income generation. Among the four categories of landholding size in the village it was found that 24% of landless families are dependent on forest resource for income generation which is highest and goes on decreasing as the landholding size increases (Table-3).

**Table- 3: Percentage distribution of HH on the basic of land holding size, type of house head and nature of forest dependency.**

Sl.No	Size of Land Holding	Regular		Total	Seasonal		Total	All
		Male Headed	Female Headed		Male Headed	Female Headed		
i	Land less	12	12	24	68	8	76	100
ii	Marginal (.5 to 1 acre)	17.39	4.35	21.74	73.91	4.35	78.26	100
iii	Small (1.01 acre to 3 acre)	6.67	13.33	20	66.67	13.33	80	100
iv	Medium (More than 3 acre)	11.76	5.88	17.64	76.47	5.89	82.36	100

Source: Field survey

There are different dimensions of tribal livelihood conditions relating to forest. Forest can promote livelihood in a number of ways such as increased income, increased well being, reduced vulnerability and more sustainable use of natural resource base. The above said contributions of forests again depends on number of factors such as availability of alternative source of income, access to forest, marketing facilities of the available forest products and institutions involved in management of forests etc. the above ideal condition does not satisfy for village Saitpur. Due to erratic rainfall over last few years' cultivation is no more a sustainable source of alternative livelihood. Severely affected by massive deforestation and erratic rainfall the villagers are now

moving from secured sector to unsecured sector of wage labour. The entire scenario indicates that forest is no more a sustainable source of livelihood as the dependency on it is declining drastically. The major factors that affected the dependency on forest by forest dwellers are massive deforestation and state policies.

#### **4. FOREST AND DEPENDENCY**

Forest and dependence of the forest dwellers on forest is inevitable. Their lives and livelihoods are related to forest. They are not only dependent on forest for their livelihood but also they are culturally intact with it. For their rituals and religious practises they go to forest and without some occasion specific items like sal leaves and few flowers their ritual couldn't be completed. One couldn't separate forest and forest dwellers. Their dependency on forest is incalculable as it is not only for monetary gains. Forest dwellers especially tribal are sentimentally attached to forest.<sup>3</sup>

##### **4.1 Nature of Dependence on Forest**

As it is evident that forest dwellers are dependent on forest for multiple purposes since centuries. They are on it for their survival and subsistence. Forest contributes not only to their income but fulfils most of their needs. We cannot anticipate the lives of forest dwellers separated from forest. Forest dwellers depend on forest for their livelihood for NTFP, hunting, cultivation of forestland, food items, medicinal and herbal plants and wage labour for logging or forest activities. Most of the people have acquired forest land for agriculture and homestead land. Different type of timber is used for construction of house, agricultural implements and furniture. With the passage of time the nature of dependence on forest has changed to some extent. But still it is observed in the study village that most of the households are dependent on forest for some purposes. It is found that the entire households collect fuel wood from forest for cooking purpose. It is found that 8.75% of the total sample household has forest as primary occupation. Whereas 15% of the total household opt forest as secondary occupation (Table-4). We can see that forest, as secondary occupation, is two times that of as primary occupation. It is because today income from forest is not sufficient. People especially male use to go to forest for NTFP collection when he couldn't get work. In that lean period he collects the forest produces. Most of the male members only involve in the collection of sal leaves and few other demanded NTFPs.

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<sup>3</sup> [http://www.forest.nsw.gov.au/publication/e\\_sv/pdfs/forest\\_values\\_indicators.pdf](http://www.forest.nsw.gov.au/publication/e_sv/pdfs/forest_values_indicators.pdf).

**Table - 4: Percentage distributions of households on the basis of social group and primary source of occupation**

Sl.No.	Occupation	Santhal (ST)	Bhumij (ST)	ST Total	Others(Non-ST)	All
<b>I</b>	<b>PRIMARY</b>					
1	Cultivation	40.91	60	43.42	0	41.25
2	Forest	7.58	10	7.89	25	8.75
3	Wage labourer	37.88	30	36.84	25	36.25
4	Others	13.64	0	11.84	50	13.75
	Total	100	100	100	100	100
<b>II</b>	<b>SECONDARY</b>					
1	Cultivation	25.76	40	27.63	0	26.25
2	Forest	15.15	20	15.79	0	15
3	Wage labourer	31.82	50	34.21	25	33.75

Source: Field Survey

If we look at the dependency on forest as per the purpose and nature of family head, it is found that forest contributes 32.28% to the income of male-headed family and 67.62% to the income of female-headed family of sample household. It is found that forest contributes 58.68% for the consumption purpose for male-headed family where as in case of female-headed family it is 41.28% in sample household. Overall male-headed family takes 41.47% and female-headed family takes 58.53% to the total forest produces for income and consumption purposes (Table-2). This shows that women headed family is dependent on forest mostly for income generation where as male headed family for consumption purpose. It is because the women, especially middle age, use to go to forest and collect various available NTFPs for income generation. They cannot go for wage labour, as they have to perform their housework.

It is observed that the dependency on forest is of two types: Regular & Seasonal. This classification is based on the use of forest resources for income generation. The frequency of visiting to the forest is higher in case of regular dependency in comparison to the seasonal. Regular dependent household go to forest throughout the year and collect the forest produces whatever are available and sell them. Whereas the seasonal dependent goes to the forest in specific season and collect specific NTFPs and sell them. Most commonly collected seasonal NTFPs are Sal leaf, mahua flower and mahua seed. Overall it could be observed that household in the landless, marginal and small land holding category have high regular dependency (landless- 24%, marginal-21.74%, small-20%, medium- 17.65%) (Table-3). It is clear that regular dependency on forest decreases with the increase in landholding size. Where as in case of seasonal dependency on forest it is observed that the seasonal dependency increases with the

increase of land holding size (landless- 76%, marginal- 78.26%, small- 80%, medium- 82.35%). This shows that the people who have large landholding they go to forest for collecting seasonal forest items. Regular dependency is symptom of vulnerability as now days the collection of forest items is not sufficient to fulfill all the needs. Mostly the most vulnerable section of society i.e. female-headed family is regularly dependent. They use to collect danta Kathi, Sal leaves and seasonal food items and sell them in local hatt. They are solely dependent on this income for their house running.

Apart from income generation and consumption purposes all the household having ruminants are dependent on forest for grazing. There is free field grazing practised in this village. Generally they use to rear cows and goats. The villagers take advantage of the forests surrounding the village. Earlier selling of fodders was also practised. But because of deforestation and low rainfall there is decline in the availability of fodders. So people have stopped selling fodder.

Overall it could be seen that the dependency on forest has changed. It has changed from income generation to household consumption, either for food purpose or house making. But the families who don't have any option and are not capable of doing labour work are still dependent on forest as major income generation source. Otherwise people are using forest as supporting source not prime. But this change is not progressive but regressive one. Because they are now diverting to wage labour sector which is not a sure and sustainable income source. The change in the nature of dependency overtime is not beneficial for the people.

#### **4.2 Degree of Dependency on Forest**

Degree of dependency shows the extent of dependency how much a person/household is dependent on a particular occupation or thing. With the passage of time the degree of dependency of forest dwellers on forest have changed. Even today they are dependent on their traditional occupation. But the difference is that the degree of dependency on these occupations has reduced and they have diversified their occupation. It is very much essential to know the present degree of dependency on traditional occupations and the new occupation to understand the contribution of different occupations in the income of forest dwellers. It provides important information to understand the current livelihood scenario of the people.

The degree of dependency on various occupations is analysed in two ways: (i) on the basis of work participation and (ii) on the basis of share of income from each occupational category to total income from all sources. In this study the degree of dependency has been calculated on income basis. This calculation shows the share of income from different occupation to the overall income of the person/household and in this way shows the degree of dependency of the person/household on different occupations.

It is found that the contribution from forest to the total average income of the sample household is 28.77%. But in case of female-headed household the contribution from forest is 45.45% and in case of male-headed family it is 22.86% to the total average income of the sample household (Table-5). This shows that the degree of dependence of female-headed household is about two times more than that of male-headed household. It is found that even in male-headed family the prime collectors of the forest produces are the women members of the family. Women have deep relationship with forest.

**Table -5: Percentage distribution of Annual Gross income per sample household by source and family head.**

Sl. No	Sources of Income	Male Headed	Female Headed	Total (Average)
i	Cultivation	47.26	23.62	41.07
ii	Non Farm Labour	28.47	30.93	29.11
iii	Forest	22.86	45.45	28.77
iv	Other	1.41	0	1.05
	Total	100	100	100

Source: Field survey

If the overall dependency on forest is calculated on the basis of total contribution from forest either for income generation or consumption (in monetary terms) it is found that the dependency for male-headed family is 41.47% where as for female-headed family it is 58.53%. In case of dependency for income generation it comes 32.38% for male-headed household and 67.62% for female-headed household in our sample households (Table-2). This substantiates the fact of high dependency of female-headed household on forest.

Overall we can observe that the degree of dependency on forest is still high especially in case of female-headed family. Male-headed families are also dependent on forest. But their dependency is lower in comparison to that of female-headed family. If the dependency of people on forest for both income generation and consumption purpose is observed we could find the contribution of forest in the lives of forest dwellers.

#### 4. CONCLUSION

Forest is a means of subsistence for forest dwellers. They are economically as well as culturally intact with forest. Forest and environment have positive correlation and forest plays important role in establishing ecological balances. The present day people depend heavily on the forest. Though there are various direct and indirect benefits of forest, there are increasing deforestation due to various factors threatening the livelihood of the forest dwellers. The general trend

observed regarding diversification of livelihood of forest dwellers is regressive not progressive. This is a matter of high concern at present era.

The nature and dependence of forest dwellers on forest have changed overtime. Because of deforestation the availability of forest produces have declined and it is not sufficient for the fulfilment of all the needs of people. Few of the NTFPs are endangered here are many have got extinct. So People are diversifying their occupation. But still the dependency on forest could be observed. All the households in the study village are dependent on forest for the collection of fuel wood, seasonal food items and housing purpose. The female-headed family has comparatively high dependency on forest for income generation as compared to the male-headed family. Among the male-headed family the landless households have very less dependency on forest for income generation as they go for labour work because forest couldn't provide sustainable livelihood. Female-headed household don't have other alternative so dependency is high on forest. Even in the male-headed household the prime collectors of the NTFPs are women members especially the middle age women. Marketing of denationalised NTFPs are also done by the women in local hata. Overall we can say that forest is not a sustainable source of livelihood at present time. It is because of deforestation and reduction in forest coverage.

The major causes of deforestation at present scenario are: nexus between forest department officials and market person, high mining activity, development projects like dams, roads and railways, forest fire, population pressure and high dependency on forest of the local communities for timber and non-timber produces of forest. Deforestation has also disturbed the weather cycle. Since past few years erratic rainfall has been observed and the average rainfall has also decreased. Because of this people are not able to cultivate a single crop with good yield. This is another reason of diversification of people to wage labour for their survival.

Social forestry and the forest conservation committees are not functioning well. It is observed that the lack of current tangible benefits of VSS, uncertainty of future benefits and lack of legal power to the VSS are the reasons for it's dysfunctional. The social capital among forest dwellers especially tribal community is very strong. They practise self-rule governance. People have high faith on the community head. This traditional intactness is greatest asset of the tribal community. But the health and education scenario is not good in the village. Even though the male literacy rate is good but it is not up to the level so that it could contribute in the income generation. There is wide gap in the literacy level of male and female.

In this current scenario it is very much necessary to check this high rate of deforestation. Only through this we can protect the interests of tribal community and could provide them a sustainable source of livelihood, as the current trend of diversification of livelihood is not progressive for them. The first major step need to be taken is that commercialization of forest

resources should be stopped. The nexus between forest officials and the market personals should be broken. The second major step required is reducing the high dependency on forest of local communities in and around the forest. It could be done by providing alternatives to the fuel wood & housing materials and generating alternative livelihood sources. It is very much required to give income generation source to the women headed distressed families who don't have any alternative other than depending on the forest. VSS and Joint Forest Management could be an effective way of protecting the forest. It could be observed that awareness among people have increased because of the VSS. So by making provisions of current tangible benefits to the people and keeping their interest alive through regular interaction the functioning of the VSS could be enhanced. It could be done that in social forestry or plantation in the forest land such plants be given priority which proves beneficial to the community in short time. Tribal community has distinct cultural and social identity and it should not be disturbed.

#### **BIBLIOGRAPHY**

1. Poffenberger Mark & Mcgean Betsy (December 1996), VILLAGE VOICES, FOREST CHOICES: Joint Forest Management in India, (PP 22-23)
2. Saxena. N.C (August 2003), Livelihood Diversification and Non-Timber Forest Products in Orissa: Wider Lessons on the Scope for Policy Change, Working Paper 223, (pp-4)
3. Varalakshmi. V, (April 15, 1998) Joint Forest Management : Towards a new system of sustainable forestry, TERI Newswire IV(7)
4. Prasad Archana, (January 5, 2003), Forest Encroachments, *Guidelines and Implications of Recent Orders, People Democracy, Vol.XXVII, No.01*
5. Prabhu, R., C.J.P. Colfer, P. Venkateswarlu, L. C. Tan, R. Soekmadi and E. Wollenberg. 1996 *Testing Criteria and Indicators for the Sustainable Management of Forests: Phase I Final Report*, CIFOR Special Publication, Jakarta.
6. National Forest policy, 1988
7. Mallick (1994): Study of minor forest products in Orissa, (PP: 26-27).
8. Mallick (2000): Sustainable management of non-timber forest product in Orissa, (PP: 09-11).