Forest Resource Management by the Dwellers of Gadchiroli District

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ABSTRACT

A study was conducted in Gadchiroli district of Vidarbha region, Maharashtra State. An exploratory research design of social research was used in the present study. The study was conducted in three tahsils and 12 villages. Total 120 forest dwellers were selected as respondents for the study. In the present study participation of respondents in forest resources management and their utilization of forest resources were studied. Problems perceived by the respondents in management of forest resources were also studied. It was found that half of the respondents (50.83%) had low level of participation followed by 43.34 per cent respondents in medium level of participation in protection of forest resources, while near about three fourth of the respondents (72.50%)had low participation in maintenance of forest resources. In the utilization of forest resources 51.66 per cent respondents were at low level follower by 38.34 per cent respondents at medium level. When studied problems in protection in of forest resources, lack of co-operation and helps between forest personnel and local peoples was perceived as serious problem by 89 respondents which was ranked at I with mean score of 2.66, followed by lack of funds and investment for forest protection in the area at II rank with mean score of 2.60. In the maintenance of forest resources, poor economic condition of local people (mean 2.90) and lack of irrigation facilities in forest areas (mean 2.82) were the I and II ranked problems perceived by the forest dwellers, respectively.

Keywords: *Forest dwellers, participation, utilization, forest resources, management*

INTRODUCTION

India is extremely rich in ecology, which is varied with genetically diverse forest and is one of the world's top twelve nations having mega diversity in terms of biological resources (Sodhi, 1977). However, Indian forests are amongst the lowest in the world in terms of their productivity and quality management. It has been recognized that half of the forest land in the country have poor or no forest cover and this situation is getting worse day by day (Tewari, 1991). Ecosystem are composed of heterogeneous, complex networks that exhibit nonlinear and transient behaviours (Green *et al*. 2005). Multiple interactions occur within ecosystems among plants and animals and are overlain by temporal, spatial and abiotic (e.g. topographic, climatic) variation of species and system parameters (Olson *et al*. 1990). Such complexity may require understanding of metapopulation and habitat patch dynamics, habitat connectivity, cumulative effects feedback loops, and habitat affinities that are multi scalar and variable.

Forest management is a branch of forestry concerned with overall administrative, economic, legal and social aspects as well as scientific and technical aspects such as silviculture, protection and forest regulation. This includes management for aesthetics, fish, recreation, urban values, water, wilderness, wildlife, wood products, forest genetic resources and other forest values. Management can be based on conservation, economics or both. Techniques include timber extraction, planting, and replanting of various species, cutting roads and pathways through forests and preventing fire. The forest is a living system composed of many species of flora, fauna, and microorganisms interacting together and environment in which they occur. Thus, forest has been regarded as a type of ecosystem, which is an important component of life support systems. These plants, animals and micro-organisms in a forest ecosystem provide forest products desired by economic development. Trees together with shrubs and herbs under the trees in the forest provide not only timber, but food, shelter and habitat for wildlife. Living organisms in the forest ecosystem can be used for fuel, food, medicines, herbages, etc. The forest ecosystem service is of great benefit to humanity, particularly for improvement

of our living environment, and providing recreational and aesthetic experience. For all of these reasons, the forest should be managed as a system if all the functions and products are expected. However, sometimes there are conflicts when production of one product causes the destruction of others, such as timber production with a clear-cutting approach. No single forest stand is able to fulfil the concept of sustainability in every respect of multiple use at all times; therefore, the long-term development of an entire forest is of more significance than the state of a specific forest stands at any one time. The goal should be that all forest areas are managed for sustainable multiple use if possible. Thus, different management approaches of various forest types will be adopted according to the forest functions and sustainable utilization desired by society. The total state of the use of national forests over the decades can be viewed as implicit evidence that forest resource management of multiple objectives has been reasonably successful.

Objectives of study

1. To study the extent of participation in forest resource management practices by the dwellers.
2. To study the extent of utilization of forest resources by the dwellers for their livelihood.
3. To identify the various problems faced by dwellers in management of forest resources for their livelihood.

METHODOLOGY

Gadchiroli district is categorized as Tribal and undeveloped district and most of the land is covered with forest and hills. Forests cover more than 79.36 per cent of the geographical area of the district. Hence, Gadchiroli district is selected for present study. This district is famous for Bamboo and Tendu leaves. Paddy is the main agriculture produce in this district.

An exploratory research design of social research was used in the present study. In the Gadchiroli forest division, four tahsils are covered viz. Chamorshi, Dhanora, Gadchiroli and Korchi. Korchi being highly affected by Naxalite activities not selected for the study, the remaining three tahsils viz. Chamorshi, Dhanora and Gadchiroli were selected for present study. From the selected tahsils 4 forest villages were selected from each tahsil, in total 12 villages from 3 tahsils were selected for present study. From each of the selected forest village, 10 respondents were selected by proportionate random sampling method from three talukas and thus total 120 farmers were selected for the study and considered as respondents in the present study.

In the present study, participation of forest dwellers in forest resource management was studied and measured with the help of scale developed by Singha (2000) was used. Participation was measured in terms of (1) Protection of forest resources and (2) Maintenance of forest resources. For measurement of utilization of forest resources scale developed by Singha (2000) was used with some modifications required to be changed as per the selected forest division. A list of forest items/activities was prepared in consultation with the Officers of State Forest Department and local forest villagers which the local forest villagers would carry out themselves to meet various needs including economic gains for themselves and / or their families prepared. The items/activities were further content analyzed and based on this analysis, utilization activities of forest resources were identified.

In order to study the problems perceived by respondents in management of forest resources, the respondents were provided with open-ended questions to explain crucial problems in relation to protection and maintenance of forest resources and show their degree of seriousness as Very Serious, Serious (S) and Not So Serious (NSS) with score 3, 2 and 1, respectively. The total rank score for each problem was obtained by multiplying the frequency of problem in the response category with the respective weightage and adding them up. The problems under each management dimensions were then arranged in descending order of importance on the basis of their total rank score.

RESULTS AND DISCUSSION

1. Participation in forest resource management practices by the dwellers

Participation of the dwellers in forest resource management was studied under two dimensions as below and presented in following tables.

i. Protection of forest resources
ii. Maintenance of forest resources

1.1 Protection of forest resources

The participation of respondents in protection of forest resources was assessed by their responses against the different selected practices in protection of forest resources. Table 1 shows the data in this regard.

Table 1
Distribution of the respondents according to their responses against the selected practices in protection of forest resources

Sl. No.	Protection of forest resources	Participation			
		MO	O	S	N
1	Protection/ban on				
i	Grazing in areas of poor vegetation	0 (00.00)	3 (02.50)	19 (15.84)	98 (81.66)
ii	Over grass cutting	0 (00.00)	2 (01.66)	25 (20.84)	93 (77.50)
2	Fencing with				
i	Barbed wire	0 (00.00)	3 (02.50)	34 (28.34)	83 (69.16)
ii	Bamboo materials	14 (11.67)	57 (47.50)	20 (16.67)	29 (24.16)
iii	Stones	0 (00.00)	0 (00.00)	5 (04.16)	115 (95.84)
iv	Trench digging	0 (00.00)	0 (00.00)	37 (30.84)	83 (69.16)
3	Planting around with				
i	Live hedges	0 (00.00)	0 (00.00)	22 (18.34)	98 (81.66)
ii	Thorny plants/ Agave	0 (00.00)	0 (00.00)	43 (35.84)	77 (64.16)
4	Manual cutting of				
i	Bushes	7 (05.84)	38 (31.66)	30 (25.00)	45 (37.50)
ii	Climbers	19 (15.84)	16 (13.34)	62 (51.66)	23 (19.16)
iii	Parasites	16 (13.34)	29 (24.16)	43 (35.84)	32 (26.66)
5	Reducing fire hazards				
i	Collection of inflammable materials	3 (02.50)	13 (10.84)	39 (32.50)	65 (54.16)
ii	Burning of materials	0 (00.00)	24 (20.00)	43 (35.84)	53 (44.16)
iii	Prevention of forest fire	0 (00.00)	18 (15.00)	28 (23.34)	74 (61.66)
iv	Remarkation of fire lines	0 (00.00)	0 (00.00)	0 (00.00)	120 (100.00)
6	Watch and wards	2 (01.66)	14 (11.66)	31 (25.84)	73 (60.84)
7	Application of chemicals	0 (00.00)	0 (00.00)	9 (07.50)	111 (92.50)

(Figures in parenthesis indicate percentage)
MO- Most often **O-**Often **S-**Seldom **N-**Never

1. Protection or ban on grazing

The respondents, in general (81.66%) had not participated in protecting or banning grazing in areas of poor vegetation. Only 15.84 per cent and 02.50 per cent of the respondents took part in protecting from grazing in poor vegetation areas in seldom and often response category, respectively. The situation was also worse in case of ban following of over grass-cutting by others as found with only 20.84 per cent and 01.66 per cent respondents voiced their concerns over this issue in seldom and often, respectively. The remaining (77.50%) had never taken the issue as serious and they remained aloof from this protection activity of forest resources. Protection or banning of grazing or grass cutting was done in terms of imposing different kinds of restrictions to others when it came under the eye of the respondents, in forest villages. Further, investigation reveals that only a few important people in forest villages made restrictions in different manners to overgrazing and over grass-cutting by others in areas of poor vegetations.

2. Fencing

Fencing with bamboo materials was rather common among the people in forest villages as indicated by 75.84 per cent of the respondents who made use of fencing with bamboo materials. Fencing in general was made in and around their own boundary and gardens where plants of different important species were grown. Fencing with stone was found to be practiced by a small number of 04.16 per cent respondents. Fencing with barbed wire was also used by respondents (28.34%) in seldom. It is also seen from the table that a small number over 30.84 per cent respondents practiced trench digging as fencing around homestead gardens. One of the reasons of popularity of trench digging compared to stone fencing in forest villages was that the former could serve as drainage to drain out excess water from inside the gardens.

3. Planting

Planting with live hedges and thorny plants/cactus around home boundary and gardens was not common among forest villages. However, 18.34% and 35.84% respondents were found planting live hedges and thorny plants/cactus of different local species as protection measures of forest resources against men and animals.

4. Manual cutting

It can be seen from the Table 1 that, people in forest villages, by and large, adopted practice of manual cutting of those unwanted plant species. This was confirmed by the evidence that all the respondents (100%) had involved in operation of manual cutting of climbers which caused injury to the main forest plants species in production and yields. Manual cutting of bushes and parasites was also observed as common protection measures of forest resources in which respondents of 62.50 per cent and 73.34 per cent, respectively had involved. This practice of manual cutting was mentioned as the most effective protection measure of forest resources which had been practicing in forest villages for generations.

5. Reducing fire hazards

A sizeable proportion of respondents had engaged in collection of inflammable materials (32.50%) and burning of dried and other inflammable materials (35.84%) and prevention of forest fire (23.34%) in seldom, which were important in reducing fire hazards in forest. It is also observed from this investigation that some people in forest villages used to collect those inflammable materials during dry season, which was either burnt or used as composts after decomposition.

6. Watch and wards

It can be seen from the Table 1 that majority of the respondents 39.16 per cent respondents had engaged in the practice of watch and wards in terms of keeping attention to what was going on or what might happen to in seldom. However, the remaining 60.84 per cent respondents did not take part in this activity at all. This practice was more prominent among the weaker and economically poor section of people in forest village.

7. Application of chemicals

With regard to application of chemicals as

protection measure against attacks of insects-pests and diseases, a minuscule proportion of respondents (07.50%) were found to apply chemicals. The reason of no or low adoption/ application of chemicals in forestry, might be due to lack of knowledge about the use of chemicals by the forest villagers coupled with unavailability of efficient plant protection chemicals and their high costs.

Table 2

Distribution of respondents according to their extent of participation in protection of forest resources

Sl. No.	Extent of participation in protection	Respondents (n=120)	
		Frequency	Percentage
1	Low	61	50.83
2	Medium	52	43.34
3	High	07	05.83
	Total	**120**	**100.00**
Mean = 39.78			

From the Table 2 it is evident that, about half of the respondents (50.83%) had low level of participation in selected protection practices of forest resources followed by 43.34 per cent and 05.83 per cent of the respondents belongs to medium and high level of participation in protection of forest resources. Mean participation index of forest dwellers in protection of forest resources was 39.78 per cent. Similar findings are reported by Sudhendra *et al*. (2004).

1.2 Maintenance of forest resources

The participation of respondents in maintenance of forest resources was assessed by their responses against the selected practices for protection of forest resources. Table 3 shows the data in this regard.

Table 3

Distribution of the respondents according to their responses against the selected practices for maintenance of forest resources

Sl. No.	Participation in maintenance of forest resources	Response category			
		MO	O	S	N
1	Soil working	0 (00.00)	41 (34.17)	23 (19.16)	56 (46.67)
2	Mulching	3 (02.50)	12 (10.00)	26 (21.67)	79 (65.83)
3	Weeding				
i	Physical/Mechanical	0 (00.00)	19 (15.84)	69 (57.50)	32 (26.66)
ii	Chemical	0 (00.00)	0 (00.00)	26 (21.66)	94 (78.34)
4	Cleaning				
i	Cutting inferior species	0 (00.00)	2 (01.66)	58 (48.34)	60 (50.00)
ii	Cutting malformed or weak species of desired species	0 (00.00)	7 (05.84)	47 (39.16)	66 (55.00)
iii	Cutting of climbers	0 (00.00)	0 (00.00)	14 (11.66)	106 (88.34)
5	Thinning	0 (00.00)	0 (00.00)	29 (24.16)	91 (75.84)
6	Nutrients Management	0 (00.00)	0 (00.00)	3 (02.50)	117 (97.50)
7	Water Management	0 (00.00)	6 (05.00)	11 (09.16)	103 (85.84)

(Figures in parenthesis indicate percentage)

MO- Most often **O-**Often **S-**Seldom **N-**Never

1. Soil working

Majority of the respondents 53.33 per cent had participated in soil working practice inside the forest areas for various purposes like inter cropping with different horticultural crops. Soil working also increases the rate of growth of plant species and also improves aeration. Among the respondents who participated soil working practice, 46.67 per cent had never participated in soil working practices followed by 34.17 per cent and 19.16 per cent were followed in seldom and often categories of, respectively.

2. Mulching

Mulching with leaf litters like banana leaves was found to be adopted as common maintenance practice inside the forest as shown by 34.17 per cent who adopted, it as a means to control weeds and conserving soil moisture. Mulching at the initial stage of plant growth was also seen of common practice in forest villages.

3. Weeding

In forest villages, weeding with physical means was observed as traditional practices from generations which had been found to be adopted by 73.34 per cent of the respondents. However, application of chemicals as weed control measure was reported only by 21.66 per cent of respondents who were socially as well as economically sound in forest villages.

4. Cleaning

Cleaning is a tending operation which involves the removal or toppling of inferior growth including the individuals of favoured species, when they were found interfering with the overall plant growth. This practice was, by and large adopted by the people in and around forest villages. Here, as tending operation, majority respondents 49.00 per cent had practiced cutting of inferior species, while 45.00 per cent of the respondents were found cutting malformed or weak plants.

5. Thinning

Nearly one fourth 24.16 per cent of the respondents had involved in ordinary thinning in which inferior and suppressed plant species (plants which were about ½ of the tallest plants species) were removed for the purpose of improving the growth of the remaining plant species.

6. Nutrients Management

Except seldom application of compost or farm yard manure in the newly planted seedlings and some other weak plant species by a small portion of respondents 02.50 per cent none of the respondents under the study area was found to apply nutrients in form of green manures and chemical fertilizers. This can be attributed to poor economic conditions of the respondents.

7. Water management

An overwhelming number of respondents 86.83 per cent had never followed irrigation as water management practice in forest plant species because of lack of irrigation facility in forest area coupled with huge water requirement for each plant species and difficulty faced to irrigate them in different locations. However, it was observed that 14.17 per cent of the respondents managed to irrigate the plant species in seldom mainly during dry season.

Table 4
Distribution of respondents according to their extent of participation in selected practices for maintenance of forest resources

Sl. No.	Extent of participation in maintenance	Respondents (n=120)	
		Frequency	Percentage
1	Low	87	72.50
2	Medium	26	21.67
3	High	07	05.83
	Total	**120**	**100.00**
Mean = 32.97			

From the Table 4 it is evident that, majority of the respondents 72.50 per cent had low level of participation in selected maintenance practices of forest resources followed by 21.67 per cent of the respondents in medium level of participation. The remaining 5.83 per cent respondents were found in high level of participation. Mean participation index of forest dwellers in maintenance of forest resources was 32.97 per cent. Similar results were reported by Belekar Gitanjali (2014).

Overall Participation of Dwellers in Forest Resource Management

The distribution of respondents according to total participation of respondents in protection and maintenance of forest resources are given in Table 5.

Table 5
Distribution of respondents according to overall extent of participation in forest resource management

Sl. No.	Total Participation Index	Respondents (n=120)	
		Frequency	Percentage
1	Low	07	05.83
2	Medium	82	68.34
3	High	31	25.83
	Total	**120**	**100.00**
Mean = 56.27			

From the Table 5 it is evident that, majority of the respondents 68.34 per cent had medium level of overall participation in management practices of forest resources followed by 25.83 per cent and 05.83 per cent of the respondents in high and level of total participation, respectively. The medium level of participation in management of forest resources was due to the respondent's medium participation in both protection and maintenance practices, which were considered the two management dimensions of forest resources. Mean overall participation index of forest dwellers in forest resources management was 56.27 per cent. Similar results were reported by Kumar *et al.* (1994) and Kshirsagar (2011).

2. Utilization of forest resources by the dwellers

The extent of utilization of forest resources by the respondents was assessed by the responses against different activities related to utilization of forest resources. Table 6 shows the data in this regard.

Table 6
Distribution of the respondents according to their utilization of forest resources

Sl. No.	Forest resources	Utilization			
		MO	O	S	N
1	**Harvesting / Collection of forest product**				
i	Felling of dying or dead plants	0 (00.00)	33 (27.50)	63 (52.50)	24 (20.00)
ii	Harvesting of fruits				
a.	Aonla	31 (25.84)	47 (39.16)	27 (22.50)	15 (12.50)
b.	Hirda, behda	9 (07.50)	24 (20.00)	41 (34.16)	46 (38.34)
c.	Mahua	29 (24.17)	68 (56.67)	12 (10.00)	11 (09.16)
iii	Collection of other forest product				
a.	Tendu leaves collection	78 (65.00)	23 (19.16)	10 (08.34)	9 (07.50)

b.	Gum collection	0 (00.00)	0 (00.00)	37 (30.84)	83 (69.16)
c.	Wild mushroom collection	13 (10.84)	56 (46.65)	28 (23.34)	23 (19.17)
d.	Traditional plants collection	0 (00.00)	0 (00.00)	14 (11.66)	106 (88.34)
2	**Conversion**				
i	Fire wood	61 (50.84)	42 (35.00)	17 (14.16)	0 (00.00)
ii	Agricultural implements	15 (12.50)	29 (24.16)	52 (43.34)	24 (20.00)
iii	Furniture	0 (00.00)	12 (10.00)	47 (39.16)	61 (50.84)
iv	Industrial raw materials	0 (00.00)	0 (00.00)	0 (00.00)	120 (100.00)
3	**Household consumption/domestic use**				
i	Fruits/ edible parts	17 (14.16)	78 (65.00)	21 (17.50)	4 (03.34)
ii	Fire wood	89 (74.16)	30 (25.00)	1 (00.84)	0 (00.00)
iii	Agril implements and furniture	14 (11.67)	11 09.16)	37 (30.83)	58 (48.34)
4	**Sale**				
i	Fire wood	0 (00.00)	44 (36.67)	31 (25.83)	45 (37.50)
ii	Fruits /edible parts	5 (04.16)	38 (31.67)	29 (24.17)	48 (40.00)
iii	Agril implements and furniture	4 (03.34)	13 (10.83)	17 (14.16)	86 (71.67)

(Figures in parenthesis indicate percentage)
MO- Most Often O-Often S-Seldom N-Never

1. Harvesting

People in forest villages generally used to harvest both major and minor forest resources in times of need from reserved forest. This was clear from the data presented in Table 6 revealed that, greater majority of respondents together (52.50% seldom and 27.50% often) mentioned their involvement in felling of dying or dead plants while majority of them harvesting aonla, mahua, hirda and behda. Under collection of other forest products tendu leaves and wild mushroom found popular among the forest villagers, while majority of respondents never use to collect gum and traditional plants (69.16% and 88.34%), respectively.

2. Conversion

Cent per cent of the respondents had participated in conversion activity of forest resources into firewood of which, half of them were found in most often 50.84 per cent and often 35.00 per cent categories. The Table also shows that 79.80 per cent and 49.16 per cent of respondents had confirmed their participation in conversion into agricultural implements and furniture as seldom 43.34 per cent, often 24.16 per cent and most often 12.50 per cent. Half of the respondents 50.84 per cent never participated in utilization of conversion of furniture. However, none of the respondents were found to involve in conversion into industrial raw materials, which can be mainly attributed due to lack of industries.

3. Household consumption/domestic use

As regards to consumption or domestic use, all the respondents 100 per cent were observed in both consumption of fruits/edible parts of forest products and use of fire wood for fuel purpose. It was also noticed that cent per cent respondents had used fire wood for fuel purpose (74.16% most often and 25.00% often), while half of the respondents 51.66 per cent were found in domestic use of finished products like agricultural implements and furniture. It was commonly seen that consumption level of forest produce was higher among the small and marginal farmers and labours since many of them were found directly or indirectly involved in forest activities.

4. Sale

It was observed that less than half of the respondents (31.67% often, 24.17% seldom, and 4.16 per cent most often) had used to sell minor forest products like fruits and edible parts to nearby markets of forest village. The sale of firewood was done by majority of the respondents 62.50 per cent i.e., 36.67 per cent followed often and 25.83 per cent seldom. However, 38.33 per cent (14.16% seldom, 10.83 often and 3.34% most often) respondents were found to sell finished products such as agricultural implements and furniture. It was also observed that most of the selling activities related to forest resources were done by small and marginal land holders as well as labourers in forest areas to earn income form forest resources for their livelihood.

Table 7
Distribution of respondents according to their extent of utilization of forest resources

Sl. No.	Extent of utilization	Respondents (n=120)	
		Frequency	Percentage
1	Low	62	51.66
2	Medium	46	38.34
3	High	12	10.00
	Total	**120**	**100.00**
Mean = 39.17			

The Table 7 shows that, majority of the respondents 51.66 per cent had low level of utilization of forest resources followed by 38.34 per cent respondents in medium level of utilization of forest resources. Only 10.00 per cent of the respondents were found to have utilized forest resources at high level.Mean utilization index of forest dwellers in forest resources management was 39.17 per cent. Findings are in line with the findings of Singha (2000).

Problems faced by the dwellers in management of forest resources

In order to study the problems perceived by respondents in management of forest resources, the respondents were provided with open-ended questions to explain crucial problems in relation to protection and maintenance of forest resources and show their degree of seriousness as Very Serious, Serious (S) and Not So Serious (NSS) with score 3, 2 and 1, respectively. The total rank score for each problem was obtained by multiplying the frequency of problem in the response category with the respective weightage and adding them up. The problems under each management dimensions were then arranged in descending order of importance on the basis of their total rank score. The problems faced by respondents are shown in Table 8.

Table 8
Problems faced by the dwellers in management of forest resources

Sl. No.	Problems	Respondents				Total score	Mean score	Rank
		VS	S	NSS	Total			
A	**Protection**							
1	Lack of co-operation and helps between forest personnel and local people	89	12	19	120	310	2.66	I
2	Lack of funds and investment for forest protection in the area	75	37	8	120	307	2.60	II
3	Deprives of rights and privilege of local people to harvest forest trees	77	29	14	120	303	2.50	III
4	Unemployment problems of local youth	68	44	8	120	300	2.48	IV
5	Lack of protection force/patrolling service on the part of forest Department	69	32	19	120	290	2.40	V
6	No control over wildlife activities in forest areas	60	37	23	120	277	2.14	VI
7	Poor knowledge and attitude towards resource conservation	54	48	18	120	276	1.99	VII
B	**Maintenance**							
1	Poor economic condition of local people	92	20	8	120	324	2.90	I
2	Lack of irrigation facilities in forest areas	85	30	5	120	320	2.82	II
3	Lack of technical knowledge on growth and maintenance of forest resources	82	31	7	120	315	2.76	III
4	Lack of regular extension services on the part of Forest Department	86	22	12	120	314	2.70	IV
5	Lack of seedling/saplings of quality tree species	61	36	23	120	278	2.40	V
6	Problems of marketing of forest produce	51	41	28	120	263	2.35	VI
7	High cost of fertilizers and pesticides in forest areas	52	36	32	120	260	2.29	VII

VS- Very Serious **S**- Serious **NSS**- Not So Serious

As evident from Table 8, three of seven identified problems namely; Lack of co-operation and helps between forest personnel and local people, lack of funds and investment for forest protection in the area and deprives of rights and privilege of local people to harvest forest trees which according them ranged from serious to very serious problems for protection of forest resources as indicated by their corresponding mean scores of 2.66, 2.60 and 2.50 and also their rank first second and third respectively. The other problems in order of importance were unemployment problems of local youth (2.48), lack of protection force/patrolling service on the part of forest Department (2.40), no control over wildlife activities in forest areas (2.14), poor knowledge and attitude towards resource conservation (1.99).

The Table 8 also shows that, poor economic condition of local people, lack of irrigation facilities in forest areas and Lack of technical knowledge on growth and maintenance of forest resources were the three important problems which the respondents perceived as serious so far maintenance of forest resources was concerned as shows by their corresponding mean score i.e., 2.90, 2.82 and 2.76 rank first, second and third, respectively. The other

problems in order of importance were lack of regular extension services on the part of forest department (2.70), lack of seedling/saplings of quality tree species (02.40), Problems of marketing of forest produce (2.35) and high cost of fertilizers and pesticides in forest areas (02.29).

CONCLUSION

It is observed from the that majority of forest dwellers had low to medium participation in selected protection practices of forest resources, while nearly three fourth of the respondents had low level of participation in selected maintenance practices of forest resources. When studied overall participation, majority of respondents had medium level of participation in forest resource management. In case of utilization, little bit more than half of the forest dwellers utilized forest resources at low level.

Major problems faced by respondents in management of forest resources were lack of co-operation and helps between forest personnel and local people, lack of funds and investment for forest protection in the area and deprives of rights and privilege of local people to harvest forest trees which according to them ranged from serious to very serious problems for protection of forest resources rank first, second and third, respectively. As regards problems in maintenance of forest resources, poor economic condition of local people, lack of irrigation facilities in forest areas and lack of technical knowledge on growth and maintenance of forest resources were the three important problems which the respondents perceived as serious so far maintenance of forest resources was concerned as shows by their rank first, second and third, respectively.

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