

Participation of tribal farm women in identified minor forest products related IRM activities

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ABSTRACT

The study was purposively conducted in the Danta and Amirgadh tribal dominated taluka of Banaskantha district of the Gujarat state. For selection of 20 villages and 200 respondents, multistage purposive sampling technique was employed. Participation of tribal farm women in each of the identified minor forest products related IRM activities was measured using three point continuum *viz.*, full participation, moderate participation and no participation. Important minor forest products related IRM practices in which maximum tribal farm women have participated were mahua products related activities (1.69 MS), fibre extraction of agave (1.96 MS), horticulture related activities (1.74 MS), timru products related activities (1.73 MS), activities related to medicinal plants (1.65 MS), collection of gum (1.67 MS), bamboo products related activities (1.58 MS), khakhar related activities (1.57 MS), collection of honey (1.36 MS) and pam (tad) related activities (1.34 MS).

INTRODUCTION

Tribal women have significant contribution in almost every aspects of their society. The prosperity and growth of tribals depend on contribution of the women in various activities. In addition to various economic activities, tribal farm women also participate in indigenous resource management (IRM) activities. Indigenous resources are considered to be the best means for their livelihood. Women's participation is noticed in production, processing and generating household income in the areas of agriculture,

animal husbandry and minor forest products. They are able to run their family with locally available resources. For better participation and full utilization of IRM activities, knowledge regarding indigenous resource management in the areas of agriculture, animal husbandry and minor forest products is must. Keeping this in view the study on participation of tribal farm women in identified minor forest products related IRM activities was under taken.

MATERIAL AND METHODS

The present study was conducted in the tribal areas

of Banaskantha district of the Gujarat state. Tribal dominated 2 talukas *viz.*, Danta and Amirgadh covered under tribal sub-plan were purposively selected for the study. For selection of villages and respondents, multistage purposive sampling technique was employed. Total 20 tribal dominated villages, 10 from each taluka were selected. Tribal farm women from each village were selected using proportionate random sampling making a sample of 200 tribal farm women as respondents.

The participation of tribal farm women in minor forest products related IRM activities (practice) was assessed under ten different sub-heads and participation of tribal farm women in each identified practice was measured on three point continuum *viz.*, full participation, moderate participation and no participation with a score of 3, 2 and 1, respectively. For clear understanding of participation in each of the selected activities and to find overall participation mean score and overall mean score were calculated.

The data were collected by personal interview with the help of a well structured and pretested interview scheduled.

OBSERVATIONS AND ANALYSIS

The findings of the present study as well as relevant discussion have been presented under following heads :

Participation of tribal farm women in minor forest products related activities :

The assessment of participation of tribal farm women

in minor forest products related activities was categorized in ten different sub-heads *viz.*, (i) horticulture related activities, (ii) *mahua* products related activities, (iii) collection of gum, (iv) collection of honey, (v) bamboo products related activities, (vi) *timru* products related activities, (vii) *pam (tad)* related activities, (viii) *khakhar* related activities, (ix) fibre extraction of agave and (x) activities related to medicinal plants.

Participation of tribal farm women in horticulture related activities :

There is no systematic horticulture farming in the tribal area under study. However, in the forest area the fruits *viz.*, ber, sitafal, *timru*, kantha, aonla, ker, jamun, rayan, karamada, etc. are grown naturally. Similarly the vegetables *viz.*, kankoda, patoda, bitter gourd, drum stick, etc. grow naturally. Tribal women collect such fruits and vegetables from the forest and sell it to nearby highway/taluka. Further, tribal grow some vegetables (*bringal*, tomato, chillies, pigeon pea, cabbage, cucumber, etc.) in the limited area. Selling of these fruits and vegetables can generate some income for tribal families. Hence, certain aspects of horticulture related activities were considered for study. The information regarding this is furnished in Table 1.

It can be observed from the Table 1 that most of the horticulture related activities were under full participation category.

The data presented in Table 1 show that plucking of

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Plucking of fresh fruits	60 (30.00)	20 (10.00)	120 (60.00)	1.70	II
2.	Drying of fruits	64 (32.00)	08 (04.00)	128 (64.00)	1.68	III
3.	Plucking of fresh vegetables	104 (52.00)	08 (04.00)	88 (44.00)	2.08	I
4.	Drying of leafy vegetables	40 (20.00)	24 (12.00)	136 (68.00)	1.52	IV
Overall mean score					1.74	

Note : The figure in brackets indicates percentage

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No		
1.	Collection of <i>mahua</i> flowers	112 (56.00)	00 (0.00)	88 (44.00)	2.12	I
2.	Collection of <i>mahua</i> seeds (<i>doli</i>)	88 (44.00)	00 (0.00)	112 (56.00)	1.88	II
3.	Oil extraction	00 (0.00)	56 (28.00)	144 (72.00)	1.28	IV
4.	Making of <i>kakam</i> from flowers	40 (20.00)	16 (08.00)	144 (72.00)	1.48	III
Overall mean score					1.69	

Note : The figure in brackets indicates percentage

fresh vegetables was the important activity in which maximum tribal farm women have participated and was ranked first (2.08 mean score), followed by plucking of fresh fruits (1.70 mean score) which ranked second. In the remaining activities *viz.*, drying of fruits (1.68 mean score) and drying of fresh vegetables (1.52 mean score) the participation of tribal farm women was poor and hence they ranked third and fourth, respectively.

From the foregoing discussion, it can be concluded that plucking of fresh vegetables and plucking of fresh fruits were the major areas in which majority respondents participated because these were an income generating activities due to year round continuous demand of fresh vegetables and fruits. Further, plucking of fresh vegetables and fruits needs less physical labour and skill. Tribal women participation in horticulture related activities was also reported by Patel (1998).

Participation of tribal farm women in *mahua* products related activities :

Maintenance of *mahua* tree is one of the indigenous practices being followed by the tribal farmers. Tribals refer the *mahua* tree as an earning son of their family as the tree provides multipurpose benefits. Each and every part of *mahua* tree is useful to the tribal family.

Therefore, they never cut the *mahua* tree themselves and also could not permit anybody to cut the tree. Looking to the importance of *mahua* tree, the participation of tribal farm women in *mahua* products related activities was studied. The results in this regards are presented in Table 2.

The data show that collection of *mahua* flowers and collection of *mahua* seeds (*doli*) were the important activities in which maximum tribal farm women have participated and were ranked first (2.12 mean score) and second (1.88 mean score), respectively. Collection of *mahua* flowers and seeds (*doli*) are the important activities performed by women because these activities could not require much labour. Secondly, the so collected *mahua* flowers and seeds (*doli*) are being purchased by Gujarat State Forest Development Corporation at remunerative price.

The activities *viz.*, making of kakam from flowers (1.48 mean score) and oil extraction (1.28 mean score) were ranked third and fourth, respectively because of poor participation of tribal farm women in these activities. The overall mean score of participation of tribal farm women in *mahua* products related activities was 1.69. The involvement of women in *mahua* products related activities was also reported by Patel (1998).

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Collection of gum	84 (42.00)	52 (26.00)	64 (32.00)	2.10	I
2.	Grading of gum	08 (04.00)	32 (16.00)	160 (80.00)	1.24	II
Overall mean score					1.67	

Note : The figure in brackets indicates percentage

Sr. No.	Activities	Participation			Mean score
		Full	Mode-rate	No.	
1.	Collection of honey	00 (0.00)	72 (36.00)	128 (64.00)	1.36

Note : The figure in brackets indicates percentage

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Making <i>topala / topali / chabadi / karandiya / supda / bow / arrow / toys etc.</i>	72 (36.00)	48 (24.00)	80 (40.00)	1.96	I
2.	Cutting of bamboo sprout	42 (21.00)	00 (0.00)	158 (79.00)	1.42	IV
3.	Making <i>kothi</i> for storage of food grains	00 (0.00)	96 (48.00)	104 (52.00)	1.48	II
4.	Making doors, walls and strips for houses	00 (0.00)	88 (44.00)	112 (56.00)	1.44	III
Overall mean score					1.58	

Note : The figure in brackets indicates percentage

Participation of tribal farm women in collection of gum :

Geographical area of forest is quite big in the surveyed talukas. Different categories of plants and trees grow naturally in this forest area. Likewise different types of plants and trees from which gum can be collected have naturally grown up in this area. The different types of trees from which gum can be collected are; *kadaya*, *khair*, *dhav*, *moina*, *baval* and *salai*. Generally, tribal farm women as their routine activity and at leisure time were found collecting gum from these trees. Hence, the participation of tribal farm women in collection of gum is studied and findings depicted in Table 3.

The data reveal that collection of gum (mean score 2.10) was ranked first followed by grading of gum (1.24 mean score). The overall mean participation score of tribal farm women in the activity of gum collection was 1.62 which clearly indicate the sense of income generation from indigenous gum collection activity which is carried out during slack season when employment opportunities were scarce. Studies conducted by Patel (1998) regarding collection of gum support the present findings.

Participation of tribal farm women in collection of honey :

Honey collection is an important and very old leisure-time-activity carried out by tribal families for income generation. The participation of tribal farm women in collection of honey was studied and the data in this regard are presented in Table 4.

With regards to honey collection, it was found that about 36.00 per cent tribal farm women participated moderately and remaining 64.00 per cent tribal farm women were found having no participation.

Collection of honey is a man dominated activity because it is risky and hence involvement of women was moderate and no tribal farm woman was observed under full participation category. Only they assist men in honey extraction and cleaning of bee hives. The mean score of participation of tribal farm women in honey collection was 1.36.

Participation of tribal farm women in bamboo products related activities :

Bamboo is also a multipurpose tree used by tribal people from years together for making doors, walls and strips for houses and other items like *topala*, *topali*, *chabadi*, *supda*, bow and arrows, toys and *kothi* etc. They also generate income by preparing and selling decorative articles in the rural area and this has been supported by weekly gathering for marketing of tribal products and preparations called as '*haat*'. Table 5 gives the detail participation of tribal farm women in bamboo products related activities.

If we observe the overall participation of tribal farm women in bamboo products related activities, the activity of making *topala* / *topali* / *chabadi* / *karandiyi* / *supda* / bow / arrow / toys etc., was the most important activity and was ranked first (1.96 mean score) by the respondents. Tribal women generally possess skill in

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Plucking of leaves	120 (60.00)	42 (21.00)	38 (19.00)	2.41	I
2.	Making <i>bidi</i> of leaves	54 (27.00)	34 (17.00)	112 (56.00)	1.71	II
3.	Picking of <i>timru</i> fruits	32 (16.00)	00 (0.00)	168 (84.00)	1.32	III
Overall mean score					1.81	

Note : The figure in brackets indicates percentage

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Extraction of <i>nira</i>	00 (0.00)	40 (20.00)	160 (80.00)	1.20	IV
2.	Collection of seeds (<i>tad gotali</i>)	48 (24.00)	00 (0.00)	152 (76.00)	1.48	I
3.	Mat making from leaves	32 (16.00)	16 (08.00)	152 (76.00)	1.40	II
4.	Jaggery making	24 (12.00)	08 (04.00)	168 (84.00)	1.28	III
Overall mean score					1.34	

Note : The figure in brackets indicates percentage

preparing such things and can easily be sold in local market hence, they might be motivated to participate in such activities. In the remaining activities viz., making *kothi* for storage of food grains (1.48 mean score), making doors, walls and strips for houses (1.44 mean score) and cutting of bamboo sprout (1.42 mean score), the participation of tribal farm women was poor and were ranked second, third and fourth, respectively. The overall mean score of participation of tribal farm women in bamboo products related activities was 1.58. Participation of women in bamboo products related activities has also been revealed by the study conducted by Hossain and Mishra (2002).

Participation of tribal farm women in *timru* products related activities :

Timru tree comes as a second earning member after *mahua* tree for tribal family. During slack period of summer when agricultural operations and other income generating sources are scarce, *timru* products related activities becomes the major source of income for tribal family. The information regarding participation of tribal farm women in *timru* products related activities is depicted in Table 6.

Overall result on this aspect showed that maximum number of tribal farm women (2.41 mean score) were involved in plucking of *timru* leaves and was ranked first. This is because of the efforts of Gujarat State Forest Development Corporation to help tribal farm women by purchasing *timru* leaves collected by them.

The activities, making *bidi* of *timru* leaves (1.71 mean score) and picking of *timru* fruits (1.32 mean score)

were ranked second and third, respectively but their mean score was less than overall mean score (1.81). The women's participation in *timru* products related activities was also reported by Patel (1998).

Participation of tribal farm women in pam (*tad*) related activities :

Pam trees are available in small number in the area under study. Secondly, the products of pam tree are limited and hence, the participation of tribal farm women in this activity was found limited. The participation of tribal farm women in pam (*tad*) related activities was assessed against four items viz., (i) extraction of *nira* (ii) collection of seeds (*tad gotali*) (iii) mat making from pam leaves and (iv) jaggery making. The data in these regard are shown in Table 7.

A perusal of the data in Table 7 reveal that collection of seeds (*tad gotali*) was the important activity in which maximum tribal farm women were participated and was ranked first (1.48 mean score), followed by mat making from pam leaves (1.40 mean score) which ranked second. These two activities were mainly women oriented demanding lower physical labour and skill for performance. In the remaining activities viz., jaggery making (1.28 mean score) and extraction of *nira* (1.20 mean score), the participation of tribal farm women was poor and were ranked third and fourth, respectively. It is because of the reason that tribal farm women make jaggery for home consumption only and they assist their male counterpart in extraction of *nira*. The overall mean score of participation of tribal farm women in pam (*tad*) related activities was 1.34. Patel (1998) also inferred the

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Collection of <i>Khakhar</i> leaves	96 (48.00)	00 (0.00)	104 (52.00)	1.96	I
2.	Collection of <i>kesuda</i> flowers	80 (40.00)	00 (0.00)	120 (60.00)	1.78	II
3.	Collection of <i>Khakhar</i> seeds	64 (32.00)	00 (0.00)	136 (68.00)	1.64	III
4.	Collection of <i>Khakhar</i> gum	32 (16.00)	00 (0.00)	168 (84.00)	1.32	IV
5.	Collection of <i>Khakhar</i> lac	16 (08.00)	00 (0.00)	184 (92.00)	1.16	V
Overall mean score					1.57	

Note : The figure in brackets indicates percentage

Sr. No.	Activities	Participation			Mean score
		Full	Mode-rate	No.	
1.	Extraction of fibers for making ropes	88 (44.00)	16 (08.00)	96 (48.00)	1.96

Note : The figure in brackets indicates percentage

participation of women in pam (*tad*) related activities was moderate.

Participation of tribal farm women in *khakhar* related activities :

Khakhar is a multipurpose and an income generating tree for tribal farm women. Generally, the leaves are used for preparing dishes (*patarala*) and bowls (*padaya*) which are extensively used at large gathering of people in marriage or other festivals for serving food. Marketing of these products is being supported and helped by Gujarat State Forest Development Corporation.

Looking to the importance of *khakhar* tree, participation of tribal farm women in *khakhar* related activities of tribal area of Banaskantha district has been studied. The results in this regard are presented in Table 8.

All these *khakhar* related activities were found to be participated by tribal farm women either under full participation or no participation category.

The data in Table 8 reveal that collection of *Khakhar* leaves for making dishes and bowls was the important activity in which maximum tribal farm women were participated and was ranked first (1.96 mean score), followed by collection of *kesuda* flowers (1.78 mean score) which ranked second. Because, *khakhar* leaves are used for making dishes and bowls. Further, flowers are used in different festivals for colour purpose as well as in preparing some colours. The activity *viz.*, collection of *Khakhar* seeds was ranked third (1.64 mean score).

The mean participation scores of other activities *viz.*, collection of *Khakhar* gum (1.32 mean score) and collection of *Khakhar* lac (1.16 mean score) were below average mean score (1.57) which indicate poor participation by tribal farm women in these activities.

It is worth to mention that Gujarat Forest Development Corporation helps them in making of these

products and also in purchasing of these products. Patel (1998) also reported that women were involved in *khakhar* related activities.

Participation of tribal farm women in fibre extraction of agave:

Agave is a good source of fibre which is useful for making ropes. The participation of tribal farm women in extraction of fibre from agave plants was studied and the results are presented in Table 9.

It could be observed from the Table 9 that 44.00 per cent of tribal farm women were found fully participating in extraction of fibre from agave plant. Whereas, very few (8.00 %) tribal farm women performed this activity moderately. Rope made from agave fetches good price and gives more income to the family. Thus, agave served as an additional source of income with no extra investment or efforts. Rope making activity by women was reported by Hossain and Mishra (2002).

Participation of tribal farm women in activities related to medicinal plants :

Day-by-day people are becoming more health conscious. Allopathic medicines help in curing the disease but cause many side-effects and damage the body health. Hence, people are diverting towards herbal medicines, which have no side effects or harmful effect. Many multinational companies are also entering their legs in this area.

Most of the herbal products are found in forest area. Most of the tribal people are engaged in collection of such herbal products from years together. This indicate that knowledge and importance of such herbal product in the minds of tribal people. It is also found that tribal people are having knowledge of medicinal value of these products. Keeping this in view, it was decided to know the participation of tribal farm women in this activity. Different

Sr. No.	Activities	Participation			Mean score	Rank
		Full	Mode-rate	No.		
1.	Removing seeds from pod	88 (44.00)	56 (28.00)	56 (28.00)	2.16	I
2.	Removing of bark	48 (24.00)	20 (10.00)	132 (66.00)	1.58	IV
3.	Collection of pulp	24 (12.00)	08 (04.00)	168 (84.00)	1.28	V
4.	Collection of green and dry leaves	66 (33.00)	00 (0.00)	134 (67.00)	1.66	II
5.	Collection of roots	60 (30.00)	00 (0.00)	140 (70.00)	1.60	III
Overall mean score					1.65	

Note: The figure in brackets indicates percentage.

activities regarding medicinal plants were included and the participation of tribal farm women in these activities has been given in Table 10.

The data indicated that removing seeds from pod was the important activity in which maximum tribal farm women were participated and was ranked first (2.16 mean score), followed by collection of green and dry leaves (1.66 mean score) which ranked second. The participation of tribal farm women was poor in the activities viz. collection of roots (1.60 mean score), removing of bark (1.58 mean score) and collection of pulp (1.28 mean score) and hence, they ranked third, fourth and fifth, respectively. The mean score of overall participation in medicinal related activities was 1.65.

From the Table 10, it can be seen that tribal farm women have participated in collection of certain herbal products due to their medicinal values. It gives a clear reflection that tribal farm women had acquired knowledge about medicinal values of certain important herbal products. Again if we examine in detail, it can be observed that tribal farm women had maximum participation in particular activities (collection, removing and drying) as they were the only women oriented activities. These activities are important activities for supplementing income among tribals and require no invest hence they perform it very readily.

The similar finding was also reported by Patel (1998).

Conclusion :

It can be concluded from the aforesaid discussion

that 'Plucking of fresh vegetables' and 'Plucking of fresh fruits' in case of horticulture related activities; 'Collection of mahua flowers' and 'Collection of mahua seeds (*doli*)' in case of mahua products related activities; 'Collection of gum' and 'Grading of gum' in case of collection of gum related activities; 'Collection of honey' in case of honey related activities; 'Making *topala/topali/chabadi/karandiya/supda*/bow/arrow/toys etc.' and 'Making *kothi* for storage of food grains' in case of bamboo products related activities; 'Plucking of leaves' and 'Making *bidi* of leaves' in case of *timru* products related activities; 'Collection of seeds (*tad gotali*)' and 'Mat making from leaves' in case of pam (*tad*) related activities; 'Collection of *Khakhar* leaves' and 'Collection of *kesuda* flowers' in case of *khakhar* related activities; 'Extraction of fibres for making ropes' in case of agave related activities; and 'Removing seeds from pod' and 'Collection of green and dry leaves' in case of medicinal plants related activities were the important minor forest product related IRM activities in which maximum tribal farm women have participated.

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