

Status and distribution of forest based artisans in Assam, India

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Abstract: In northeast India, making of cane and bamboo products has been practiced for centuries and is perhaps the most widely used of all the crafts practiced by a large number of artisans scattered throughout the region. The study was carried out in Assam covering 76 villages in 29 Community Development Blocks falling under 11 districts of the states. The estimated mean number of artisan households per village in the state was 12.33 with a standard deviation of 5.82. The forest based artisan activity was quite intense in the central, western and southern parts of the state. The most active group in terms of the type of products made was the Group-IV including the eastern districts of Dhemaji, Dibrugarh, Jorhat, Sibsagar and Tinsukia. The concentration of artisan households per village was more in the western and southern part of the Assam. Most artisans in the western and south western districts (Group-I) and the southern districts (Group-VI) were bamboo based while artisans in remaining Groups-II, III, IV and V were involved in cane based activities. Contribution of artisan activities in rural employment is greater than the employment generated by medium or large wood based industry. Artisan activities need to be encouraged for enhancing the livelihoods of rural poor through skill development.

Key words: Artisans activity, income generation, forests resources, livelihoods, bamboo, rattan

INTRODUCTION

Creating sustainable livelihood opportunities for the poor is a central concern in most developing countries striving for social and economic revitalization. Millions join the ranks of the unemployed and underemployed every year due to population growth and increasing marginalization of agricultural holdings. Research on non-farm rural employment and income as a whole has shown that small-scale production and trading activities in forest products constitute one of the largest parts of rural non-farm enterprise employment (Liedholm and Mead, 1993).

India has a rich custom in traditional industries. The eco-friendly products of traditional industries not only have great potential for growth in production and export but can also lead to wide spread generation of employment opportunities in the rural areas of the country. The tribal handicrafts are specialized skills which are passed on from one generation to another and these handicrafts are the means of livelihood of artisans. In northeast India, making of cane and bamboo products has been practiced

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for centuries and is perhaps the most universal of all the crafts practiced by a large number of artisans scattered throughout the region. It is practiced as a household industry for their prime livelihood. Artisans activity become important income source for rural people in the areas where no mechanical device is being used. This industry has carved for itself an important place among the handicrafts. It provides part time employment to the people involved in alternate activities like farming, animal husbandry etc. in their spare time and full time employment to the few highly skilled artisans who produce fine decorative baskets, furniture and mats on a commercial basis. Much of the production, processing and sale of forest products occurs as part-time activity within the farming households. Activities such as mats and basket making and wood fuel vending, which require low skill and capital thresholds of entry, figure prominently among non-farm commercial activities in which the rural poor engage in the absence of other employment opportunities (Fisseha, 1987; Liedholm and Mead, 1993).

The state of Assam is rich in sylvan resources and most of its forests are richly stocked with bamboos and canes of various species. Bamboo is a raw material of great versatility and forms an integral part of the lifestyle and economy of Assam. The Muli (*Melocanna baccifera*) and Dalu (*Teinostachyum dulloa*) have great commercial importance, the former for pulping, constructional and fencing purposes, and the latter for the mat and basket industry. Cane is also found in abundance almost throughout the state. It is observed that generally three species of cane i.e, Jati (*Calamus tenuis*), Tita (*Calamus leptesadix*) and Lejai (*Calamus floribundus*) are exploited in commercial quantities. The census of artisans conducted in the state of Assam during 1995-96 reported 19874 artisans. Commercial production of cane furniture is mainly concentrated in Silchar, Mangaldoi, Nalbari, Jorhat and Golaghat. After the census of artisans in 1995-96, no scientific study on artisans' distribution and their activities has been carried out in Assam. The present study is an attempt to fill in the gap and to focus on the artisans' distribution and diversity of forest products used for preparation of commercial products in Assam. The specific objectives of the study were to identify the locations of forest based artisans; to study on the status of the artisans and to suggest strategies for conservation of the forest resources used by the artisan.

STUDY AREA AND METHODS

Assam is situated between 89°42' and 96°02' east longitude and 24° and 28° north latitude in northeastern part of India. It is bounded by the states of Nagaland, Manipur, Mizoram and Tripura in the south; Bhutan and the state of Arunachal Pradesh in the north and northeast; Myanmar in the east; Meghalaya in the south and southwest and Bengal in the west. It has a geographical area of 78,438 km², making up 2.39% of the total area of the country. Total population of the state is 3.12 which is 2.58% of the total population of the country (Census data of Assam, 2011). The State of Assam is divided into 28 districts which are further divided into 219 community development blocks which administer 26312 villages and towns.

For the present study, the State was divided into six village groups based on geographical proximity (Figure 1). Group I covers the western and south western districts of the state, predominantly inhabited by people belonging to the Boro tribe, the Bengali speaking community and the Goalparian Assamese community. Group-II contains the east-central districts of the State which are very active in forest based artisan activities. However, the artisans are not evenly distributed in the group rather, but found limited to pockets. Barpeta, Kamrup, Kamrup Metropolitan districts have relatively higher artisan density. Group III covers central districts. Group IV covers eastern districts where again the artisan activity is low to medium. Group V covers the south-central districts and Group-VI covers the southern districts of the state of Assam.

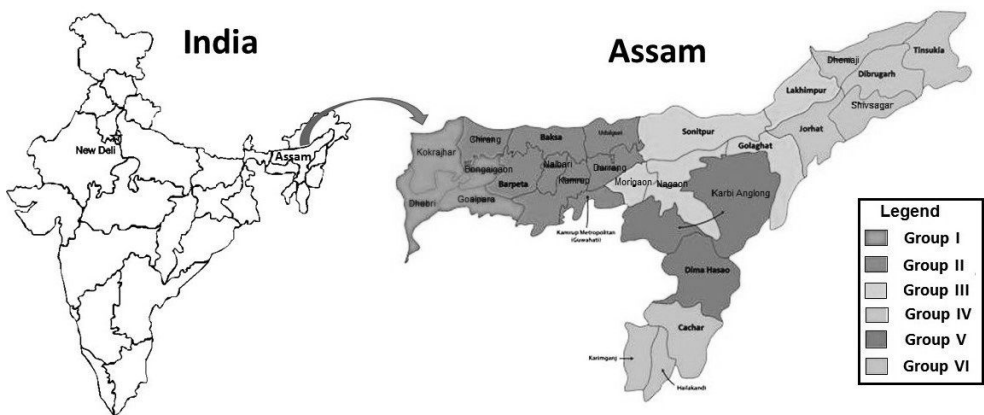


Figure 1: (a) Map of India (b) Map of Assam showing sampling districts (source: www.assampanchayat.gov.in)

A sample of 11 districts was taken on the basis of available information on forest based artisans who are involved in commercial production, representing each of the groups. From among these districts, 29 development blocks and 76 villages were selected. As the objective was to capture artisans who are active commercially, the sample selection was not random. From each selected village, five to ten artisan households were enumerated depending upon the available total number of artisan households. The break-up of sampled households into different development blocks and group is presented in Table 1.

Two types of questionnaires were designed for obtaining information on (i) the village and (ii) the artisan household. The questionnaire for village information aimed at the total number of artisan households in the village and their breakup into the type of activity in terms of bamboo based, cane based or wood based or a combination of these. It also aimed at finding market information. The questionnaire on household information aimed at capturing information related to manufacturing, raw material, marketing and working capital.

A full probability sampling scheme could not be adopted due to time constraint and non-availability of information. The aim was to capture the artisans who are involved

in commercial activity. Forest based artisans exist in almost all the villages of Assam but many of them are not involved in commercial activity. Our study tried to focus only those blocks/ villages where the forest based artisans are involved in commercial activities. Information on distribution of forest based artisans in different districts and villages of Assam were collected from secondary sources viz., published literature, State Forest Department, Handloom and Handicraft Department, etc.

The primary data were collected by employing techniques such as household survey, focus group discussion and interviews. Questionnaire was prepared for gathering first hand information about the study sites on the types of products manufactured, availability of raw materials, marketing of finished products and working capital.

Table 1: Sampled districts, development blocks, number of villages and artisan households

District	Group	No. of sampled blocks	Name of development Blocks	No. of sampled villages	No. of sampled households
Kokrajhar	I	3	Devitola, Dotma, Titaguri	6	24
Baksa	II	1	Gobardhana Bhawanipur, Gobardhana,	2	18
Barpeta	II	3	Pakabetbari	6	50
Golaghat	III	3	Bokaghat, Kotualguri, Padumoni	3	20
Lakhimpur	III	3	Baginodi, Lakhimpur, Telahi	9	67
Sonitpur	III	3	Balipura, Viswanath, Gabharu	9	62
Dibrugarh	IV	2	Khowang, Lahowal	2	8
Jorhat	IV	2	Kamalabari, Majuli	5	45
Tinsukia	IV	3	Guijan, Hapajam, Itakhuli	3	13
Dima	V		Diyung Valley, Diyungbra ITDB,		
Hassao		4	Jatinga Valley, Mahur Borjalenga, Borkhola, Kalain	8	38
Cachar	VI	4	(Hilari), Udharbond	23	114
Total		31		76	459

Statistical analysis:

To estimate the variance components at different levels, such as, at district, blocks and villages, the data were analysed using the 'Generalized Linear Mixed Model' (GzLMM) approach. The model is taken as,

$$y_{ijk} = \mu + \delta_i + \beta_{ij} + \varepsilon_{ijk} \quad i= 1, 2, \dots n; j= 1, 2, \dots n_i; k= 1,2,\dots n_{ij}$$

where,

y_{ijk} is the total number of artisan households in the k^{th} village of j^{th} block in the i^{th} district, assumed to be distributed as Poisson random variable.

μ is the overall mean number of artisan households in a village in Assam

δ_i – is the effect of the i^{th} district

β_{ij} – is the effect of the j^{th} block in the i^{th} district

ε_{ijk} – is the effect of the k^{th} village in the ij^{th} block in the i^{th} district.

n – is the number of district sampled

n_i – is the number of sampled blocks in the i^{th} sampled district

n_{ij} – is the number of sampled villages in the j^{th} sampled block in i^{th} sampled district.

For the analysis, the general mean effect μ is taken as a fixed effect and δ_i , β_{ij} and ε_{ijk} are taken as random effects. These random effects are assumed to be independently and normally distributed with zero mean and a constant variance. These are also assumed to be independently distributed of one another. For statistical analysis of variance, Baksa District, which had only one sampling village, was merged with the Barpeta District, from which it was carved out recently.

The data analysis were implemented using the *lmer* function in the *lme4* package of the R- language (R Core Team, 2013), an open source, by fitting the above unbalanced model with intercept and nested random components as District/ Block/ Village. Here the Villages are nested within Blocks which are further nested within Districts.

RESULTS

Almost every village of the state has some artisans who produce artifacts as per local needs. However, the numbers of artisans who are involved in commercial production are limited. The villages having more than 30 numbers of artisan households were found in Group IV, V and VI. In Group-IV, to be specific, on Majuli Island, 4 villages were found where the total number of artisan households was more than 50. The concentration of artisan households was low in Group-I and was medium in Group-II and III.

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Village level artisans distribution data collected above is highly right skewed as evident from the 'boxplot' of the number of artisans per sampled village in the sampled districts (Figure 2). One village in the Jorhat District having 166 artisan households is the most influential observation. The estimated overall mean is found to be 12.33 with a standard deviation of 5.82. The residual deviance is 195.1 at 71 degrees of freedom, giving an estimate of over dispersion as 2.18. The model fit is satisfactory.

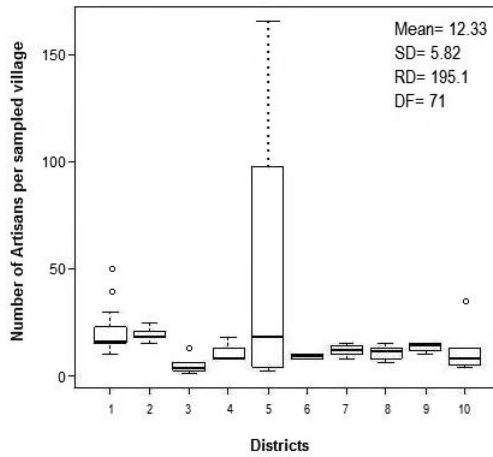


Figure 2: Boxplot analysis of the number of artisans per sampled village in the sampled districts by multiple Regression model

Note = 1: Barpeta; 2:Cachar; :3: Dibrugarh; 4:Golaghat; 5: Jorhat; 6: Kokrajhar; 7: Lakhimpur; 8:NC Hills; 9:Sonitpur; 10: Tinsukia.

The overall estimated variance is 32.656, of which 62.66 per cent is contributed by the variation between districts, 4.80 per cent contributed by variations between blocks within districts and the rest 32.54 per cent is contributed by variation between villages within blocks within districts. Nevertheless, analyzing the same data deleting one influential observation of 166 number of households obtained in the Salamara village of Jorhat district is presented in Table 2.

Table 2: Variance Components between districts, blocks and villages

		with the influential observation	without the influential observation
Overall Mean		12.33	11.23
Null Deviance		848.12	346.41
Residual Deviance		195.1	152.6
Over Dispersion parameter		2.74	2.18
Overall Variance		32.656	24.47
Variance component	District	62.66 %	29.28 %
	Block	4.80 %	51.61 %
	Village	32.54 %	19.11 %

The overall mean does not change much but the variance as well as the variance components changes a lot. The variance components now give a completely different picture with 29.28 per cent contribution of districts, 51.61 % contribution of blocks and the rest of 19.11 per cent of the contribution by the villages.

The forest based artisans make various types of bamboo, cane and wood products that include utility items as well as decorative items. In general, the involvement of the artisans in several types of activity was observed. The artisans of Group-I do not take up cane based and wood based activities and all of them were involved in bamboo based activity. Bamboo based activity was also very high in Group-VI, further that it is present in the entire group with sizable involvement. Likewise wood based activity was more in Group I followed by Group IV, V and III and cane based activity was more in Group-III followed by Group-V, IV and II. Artisans in Group-VI were primarily involved in bamboo based activities. Wood based activity was very high in Group IV and III, in order of involvement. The highest percentage of artisans (51.2%) were involved in making cane utility items like sofa sets, *Murrachs*, corner stand and baskets in the state. Cane based activity was the highest in Group-II followed by Group- III and IV. Artisans in Group- IV and V were also involved in making tables from tea bushes and this activity was also visible to some extent in Group- III and VI. The percentage of artisans involved in making decorative items like wall hangings, *Jhapias* was 44.4% and in handmade utility items like, pen stand, key stand, *agarbatti* stand, lamp stand from cane and bamboo was 40.3%. A total of 5.7% of artisans were involved in boat making and 1.1% was involved in building construction materials.

Out of the total artisans involved in commercial production, 46.53% were involved in bamboo based activities, 28.47% in cane based and 25.0% in wood based activities. About 26.0% get raw material from within the villages, 37.0% have to collect it from outside the villages while about 26.0% get it from outside the State. The percentage of villages getting most of the raw material from within the villages was high in Group V (87.5%) followed by Group I (66.3%). The villages which depend more on raw material from outside the state were found maximum in Group-III (61.9%) followed by Group- I (33.3%) and Group- VI (26.1%). Similarly the dependence on raw material from outside village was more in Group IV (72.7%) and VI (60.9%). A good number of the artisans (38.16%) collect forest raw materials from private forest while 26.32% collect raw materials from government forest. However, 34.21% did not report this, which is understandable as nearly 26.32% purchase it from outside the state (Figure 3). Largely the artisans sell their finished products directly to local markets, to some middle man or to the nearby towns like Guwahati, Lakhimpur, Jorhat, Silchar. Some artisans reported sending of their products to Delhi, Odisha, Bhopal, Mizoram. Artisans products from Majuli district have an international market particularly in United Kingdom and United States of America.

Age-wise categorization indicates that the largest number of artisans from the younger generation were involved in Group-II followed by Group-I and IV. In Group-II about 53% of artisans are of age below 30 years which suggests that people of this Group are

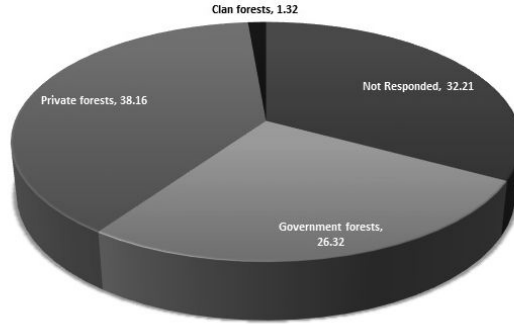


Figure 3: Forest type for raw material collection (in per cent)

motivated to take up this activity as a profession. However, in Group-V and III, the proportion of younger artisans is much lower. Similarly, very few artisans (only 5%) of the age group above 60 years were reported in the survey area.

The number of items manufactured, its minimum and maximum annual production per artisan household is presented in Table 3.

Table 3: Statistics on annual production per household (in number)

	Percentage of Artisans	Minimum Annual Production	Maximum Annual Production	Median Annual Production	
Bamboo/Cane	Handmade utility items like, pen, key <i>agarbatti</i> and lamp stand	40.30	30	1800	533.38
	Decorative items like wall hangings, <i>Jhapies</i>	44.44	1	800	288.38
	Cane utility items like Sofa sets, <i>Murrahs</i> , comer stand, baskets	51.20	10	800	133.76
	Fishing accessories,	17.21	2	1800	315.58
	Weaving accessories	8.06	15	720	280.95
	Musical instruments	3.05	15	800	200
	Building construction materials	1.10	50	365	298
	Mats like <i>dhari</i> , <i>jharia</i> , table mats, ladies gents hand bags, file, folders	16.55	60	900	269.84
Wood based	Decorative items like one horned rhino, fruit trays, wall hangings.	13.30	30	840	320.36
	Table stands made from tea bushes	3.48	24	360	162.12
	Boat making Small Boat	4.57	10	84	29.05

The maximum and minimum range of a particular type of product category reflects the spread in the number of products made annually by a household. Larger the value, larger is the spread, indicating that some households produce in smaller quantities while some other households in large quantities. The minimum relative variability was observed in case of large boat making and the maximum in manufacturing fishing accessories.

Questions was also designed to collect information on the time taken for manufacturing a product, later dropped from the study due to the lack of adequate response. Group wise break-up of the median production per household of different types of products is shown in Table 4.

Table 4: Statistics on Group wise median annual production per household (in number) and percentage of artisans in that activity (within bracket)

		Group						
		I	II	III	IV	V	VI	
Bamboo/Cane	Handmade utility items like, pen, key, <i>agarbatti</i> and lamp stand	-	280 (45.6)	360 (27.5)	360 (27.3)	80 (21.1)	600 (76.3)	
	Decorative items like wall hangings, <i>Jhapias</i>	-	365 (55.7)	180 (51.5)	360 (7.9)	90 (29.8)	300 (44.4)	
	Cane utility items like sofa sets, <i>Murrahs</i> , baskets	-	45 (85.5)	40 (75.8)	120 (68.2)	60 (28.9)	225 (7.0)	
	Fishing accessories	750 (55.8)	-	300 (17.4)	425 (9.1)	60 (7.9)	250 (28.9)	
	Weaving accessories	-	-	300 (14.1)	720 (16.7)	30 (7.9)	90 (1.8)	
	Musical instruments	-	-	200 (6.0)	65 (4.5)	-	80 (1.8)	
	Building construction materials	-	-	-	360 (6.1)	50 (2.6)	-	
	Mats like <i>dhari</i> , <i>jharia</i> , <i>darma</i> , table mats, hand bags, folders	450 (47.5)	-	180 (13)	360 (34.8)	100 (5.3)	200 (35.1)	
	Wood based	Decorative items like one horned rhino, fruit trays, wall hangings	-	102 (25.5)	304 (19.7)	270 (7.9)	30 (4.4)	840 (13.3)
		Table stands made from tea bushes	-	-	180 (2.0)	180 (13.6)	50 (7.9)	100 (0.9)
Boat making		Small Boat	-	-	24 (14.9)	24 (24.4)	-	-
		Large Boat	-	-	-	4 (11.1)	-	-

The most active group in respect to different types of activity was Group-IV where the artisans take up almost all the types of activities. Group-III, V and VI were also found to be quite active. The artisan activity was very low in Group-I, where it was primarily concentrated to fishing accessories. Forest based artisans engaged in preparing cane utility items was maximum in the Group-II followed by Group-III and IV. However the maximum annual median production of cane utility item (225 items per household) was observed in Group-VI.

Information on the quantity of raw material required for manufacturing different types of products expressed in units of weight is given in Table 5.

Table 5: Quantity required per product for making items of different type (in Kg)

	Items	Average Quantity requirement (kg)
Bamboo/Cane	Pen stand	
	Key stand	0.30 -0.80
	<i>Agarbatti</i> stand	0.50 - 1
	Lamp stand	2-3
	Wall hangings	0.40 – 0.50
	<i>Jhapias</i>	2-5
	Cane sofa set	40-80
	Cane <i>murrah</i>	5-8
	Bamboo/ cane basket	3-5
	Fishing accessories	5-10
	<i>Ugha</i> (weaving accessory)	0.50-0.80
	<i>Sareki</i> (weaving accessory)	0.40-0.50
	<i>Seri</i> (weaving accessory)	0.20-0.25
	<i>Drupadi, jator</i> (weaving accessory)	6-12
	Wall (Building Material)	20-30
	Roof (Building Material)	100-300
	Mats	20-30
Wood based	Decorative (one horned rhino, fruit tray, wall hanging)	5-30
	Table stand (tea bush)	5-15
	Small boat	25-35
	Large boat	40-55

A cane sofa set requires 40-80 kg of raw material, primarily cane and a large sized boat requires 40-55 kg of wood. The consumption of bamboo in building material was high with 100-300 kg of bamboo for roof making and 20-30 kg for wall making. Nearly half of the artisans manufacture products on regular basis and about five per cent

manufacture on the order received and 44% manufacture products on the bases of regular as well as on order received.

Majority of the artisans (71.24%) manufacture the products at their house and about a quarter work elsewhere. The group wise breakup revealed that in Group-I, II and VI, almost all the artisans manufacture at their own house. The percentage of artisans who work outside the households were: Group-III- 51.7%, Group-IV- 33.3% and Group- V 47.4%. Nearly 15% of the artisans work alone and 46.2% of them work in groups. The percentage of artisans working in groups of five or more was 8.5% while 39.2% of the respondents did not answer this question. About 87% of respondents opined that the availability of the raw materials have decreased in forest and private land with time. However, increase in the availability in raw materials was evident in the response of Group-II (25%) and IV (22.7%).

Mode of collection of raw material:

In the state of Assam 69.7% of the artisans purchase raw material, 29.4% collect it by themselves and the rest use both the modes (Figure 4). Most of the artisans in Group-II, III, and IV purchase raw material from the market. Artisans in Group-I have sufficient resources in their local areas and therefore do not need to purchase the raw material. However, the artisans of Group-V and VI are nearly equally divided between the two modes of collection. The overall percentage of artisans who use both the modes was negligible. Nearly all the artisans reported that they do not spend any money on rental for storing of raw materials.

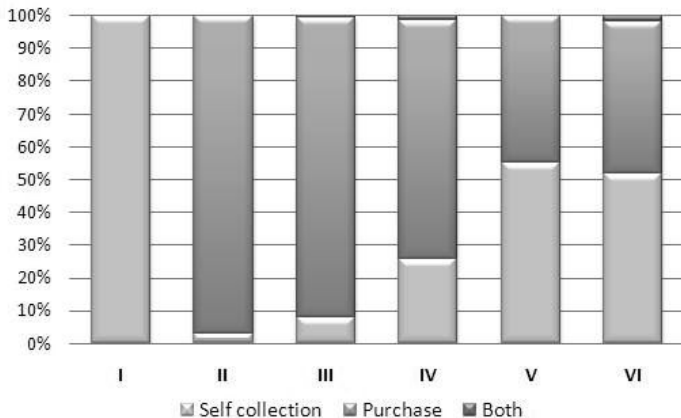


Figure 4: Group wise mode of procuring raw material (in per cent)

Marketing:

In the state, 90.8% of the artisans market their products by selling directly to buy and sale outlets and 5.2% sell it to an intermediary. However, 0.4% did not respond to this question (Figure 5). A group wise breakup of the responses revealed that a significant percentage (55.3%) of artisans of Group-V sell their product through intermediaries.

Almost 90.0% of the artisans of the state, reported of getting payment either 'immediately after selling' or 'in advance and immediately after selling' while 6.8% of the artisans get paid in advance. Likewise, 1.1% sell their products on credit basis.

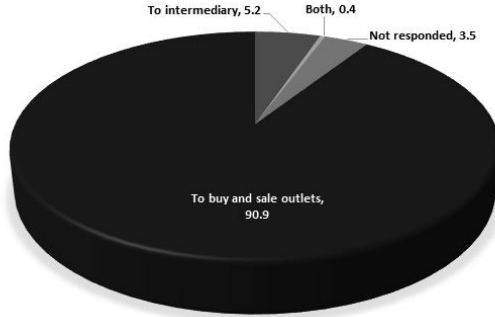


Figure 5: Mode of selling the finished products (in per cent)

The artisans of Group-II, (88.2%) and Group-V, (42.1%) reported of getting high returns on their finished products, while a majority, 79.9%, of the artisans of Group-III reported of getting low returns. Majority of the artsans in Group-VI (97.4%) were satisfied by the returns they get from selling their products. Likewise large number of artisans in Group-V was satisfied with the return. However, the artisans of Group-III were least satisfied. Majority of artisans were satisfied with the return from artisans activities and 22.8% have reported of getting high returns (Table 6).

Table 6: Group wise Response on the Returns on the Finished Products (in per cent)

	Group					
	I	II	III	IV	V	VI
Low	20.8	11.8	79.9	33.3	-	-
Satisfactory	58.3	-	0.7	45.5	57.9	97.4
High	-	88.2	10.7	19.7	42.1	-
Not responded	20.8	-	8.7	1.5	-	2.6

On the status of market for finished products over the last five years, altogether 60.9% have reported that the market of finished product is expanding, 23.5% reported that there is no significant difference and the situation remains more or less the same. Only 8.9% reported of a shrinking market. The artisans of Group-II, III and IV reported that market for artisans product is expanding to the extent of 85.3%, 81.2% and 95.5% respectively. However, the artisans of Group-V are nearly equally divided into the reported categories leaving aside the “not responded” category. A majority of artisans from Group-I and VI reported no change in market demand.

On Working Capital:

On requirement of working capital, about 77% in the artisans of state reported that they need working capital for artisan activities while about 8% reported that they do not

need working capital. Only 16.1% have reported of obtaining loan from some formal credit institution like banks while about half (49.5%) have reported of getting it from money lenders (Figure 6). The group wise break up of the response shows that a majority of artisans in this category come from Group-II, III and IV. A majority of the artisans of Group-VI obtain loan from formal credit Institutions. On the attitude towards money lenders, about 50% of the artisans reported that they are being exploited. Strangely 7.8% of the artisans reported that the money lenders are helpful.

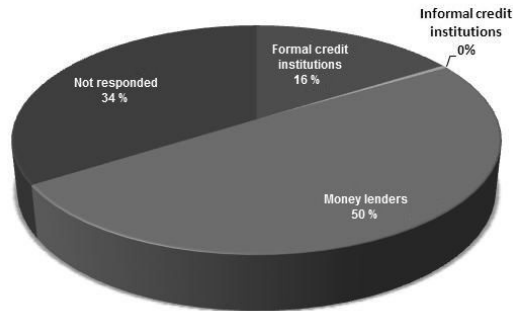


Figure 6: Agency used to obtain loan by artisans in the state (in per cent)

DISCUSSION

Large numbers of people depend on forest for timber and non-timber forest products (NTFP) for sustaining their livelihoods especially in rural areas of tropical developing countries (Kirby and Liedholm, 1986; Pimentel *et al.*, 1997; Lynch *et al.*, 1992; WCFSD, 1997). Approximately 84% of India's tribal ethnic minorities live in forested areas and 275 million rural people depend directly on forests for a portion of their income. About 100 million of people living in tribal areas are dependent on public forest or unclassified state forests (Sunderlin *et al.*, 2008). In Assam a very large number of households continue to generate significant proportion of their income from forest based activities. They use raw materials like cane, bamboo and wood to make different types of products which ranges from household products to building construction materials. For villagers, entry into such activities occurs principally in situations where they are unable to obtain sufficient income from agriculture or wage employment and for them, these activities comprise an important part of their survival strategy.

Small forest-based manufacturing enterprises process a wide range of materials from the forest (such as wood, rattans and other canes, and leaves, roots and fruits of forest plants). Handicrafts are reported as preferred items for artisans and these items usually go largely to urban markets, to tourists or sometimes even to export destinations (Fisseha, 1987). It was observed that most artisans of Assam prefer to use bamboo and cane as the raw material for handicraft items. Bamboo is largely used due to its easy availability and its lower cost in the area compared to cane and wood. Another reason may be because the demand for bamboo products is much higher as compared to the others and also less time is required to carve products out of bamboo.

It was observed that in addition to the employment and income that artisans activity generate, it contributes to rural development and introduce vital skills into rural areas. Such artisans based enterprises help conserve scarce managerial abilities, and promote indigenous entrepreneurial capabilities (Page and Steel, 1984).

However, over the years there has been a decrease in the availability of raw materials (bamboo, cane and wood) for the artisans due to which their area of collection has decreased and hence their artisans activities. The reason for the decrease in availability of raw materials could be due to over-exploitation of raw materials from forests, deforestation and forest degradation activities in the area (Contreras-Hermosilla, 2000; Banerjee and Madhurima, 2013).

In many cases, artisans collect raw materials from outside the village even if the materials were available in their village. This is probably a strategy of the villagers to conserve their available forest and forest resources for future use. Dependence on private land for raw materials could be due to the fact that government land is limited in the study area and moreover, land collection of forest resources from government is restricted. The expanding market and increasing demand for raw material is increasing the gap between demand and supply of artisans products. Some mechanism needs to be developed to address this gaps. Large numbers of artisans start their business by taking loan at higher interest from money lenders. They spend a good proportion of their profit in paying the interest of their credit as a result, the artisans find it difficult to earn commensurate benefit out of their hard labour.

The study also revealed that most artisans need assistance to set up saving and credit cooperatives for making capital available for further investment. Micro-finance institutions that give loans with minimum interest rate should be set up in rural areas and if these institutions exist they should not focus only on agriculture but also on the small or cottage industries.

CONCLUSION

In order to make artisans a suitable livelihood model for the state, sustainable harvesting of raw material from the forests should be ensured. Various plantation schemes operational in the state should promote plantation of bamboo, cane and other plant materials necessary for artisans activity. Capacity development of villagers on forest conservation, sustainable harvesting, marketing and developing business linkage is very important. Giving financial assistance and training to artisans will improve quality, quantity and design of their products as a result of which they will be able to compete in local, national and international markets.

State and Central level agencies like North East Development Finance Corporation Limited, Department of Rural Development, Department of Forests, Forest and small scale industries, private agencies, NGOs etc. need to come forward with suitable schemes/programmes for the welfare of the artisans who are generally poor and

remain neglected. It will enhance livelihood opportunities of rural poor and rejuvenate dying artisans activities in the state.

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