



## **Entrepreneurship Development of Bamboo based Enterprises in Bairabi Cluster, Mizoram**

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### *Abstract*

*Clustering of micro, small and medium enterprises can emerge as an instrument for the development of rural small and households industries and also for the development of communities related to these industries. This paper aims to study the significance of handicraft clusters in general and bamboo clusters in particular in providing employment at the national level and in a remote handicraft cluster in Mizoram where 94.5% of the inhabitants of the state are tribal. The study is based on primary data collected through field research by administering a structured questionnaire on all 39 bamboo enterprises operating in Bairabi Bamboo cluster in Kolasib district of Mizoram. The study covers all the enterprises spread over four villages in the cluster namely Bairabi, Meidum, Pangbalkawn and Chhimluang. The paper also offers suggestions for improving the value addition of the products in the cluster through cluster development initiatives to enable the cluster to sustain and grow.*

**Keywords:** *Bairabi, Rural industries, Development, Artisans, Handicrafts, Cluster, Enterprises.*

### **Introduction**

Historically Indian economy comprises of two sectors rural and urban. The rural India plays a very important role in deciding economic development as 70% of Indian population lives in rural areas. The major source of earnings of rural population comes from agricultural. Other than agriculture, rural economy also depends on non-agricultural sub-sector consist of several economic activities such as cottage and village industries, khadi, handloom, handicrafts, trading of general goods, small shops, petty traders and service such as – transportation, communication, banking, input supply and marketing of farm and non-farm producers (Singh, 2009).

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The micro and small enterprises (MSEs) plays a leading role in propelling economic growth sustaining livelihood and in promoting equitable regional development. The MSEs constitute over 90% of total enterprises in most of the developing economies and are credited with generating the highest rates of employment growth and accounting for a major share of industrial production and exports. This is evident from the fact that this sector in India accounts for about 39% of the manufacturing output and around 33% of the total export of the country (Ittyerah, 2009). Micro sector with 14.85 lakh working enterprises, accounted for 94.94% of working enterprises of MSME sector. Average employment generated by registered MSME sector is estimated at 5.95 per working enterprise (MSME, 2007).

In North East India, manufacturing activities are based on locally available resources for which the optimal plant sizes are not very large. Thousands of micro enterprises at the household level are operating in the region particularly in rural areas. Enterprise that could not be neglected in North East India is bamboo industries or enterprises. Bamboo is an integral part of the socio-cultural and economic traditions of the NER. It plays an important role in shaping the economies of the NER by providing huge employment opportunities.

The handicrafts industry is largely rural based and is an important provider of rural non-farm employment. The handicrafts industry has over the years contributed significantly to the employment and foreign exchequer of the country. The employment in handicraft sector had increased from 65.72 lakh in 2005-06 to 76.17 lakh in 2010-11, of which, 24.7% were SC, 2.30% were ST and 47.40% were female (Govt. of India, 2011). Bamboo as raw material has been the mainstay of the handicraft industry in India owing to its abundance in the country as well as the ease of growing and harvesting bamboo. Two third of the growing stock of bamboo in the country is available in the North East Region (Bahar, 2014). The abundance of raw material in the region made a favorable condition for the people to shift from agriculture sector.

Interestingly, most of the handicraft and handloom enterprises in India are situated in geographic concentrations, called clusters. Such clusters are at times centuries old consisting of mostly household units utilizing both home based as also wage earners. India is estimated to have around 2682 handicrafts and 491 handlooms clusters. The 2682 handicraft clusters belong to 24 product groups, covering 292 products. These include 548 textiles, 418 basketry, 298 woodwork, 251 metal ware and 203 earthenware related handicrafts products (Sarkar, 2011).

Broadly a cluster of enterprises may be defined as a typical geographical concentration of firms producing same or a similar range of products (goods or services) which is facing same or similar set of threats and opportunities. In a cluster, MSMEs derive advantages that large firms usually get due to their size, through agglomeration economies that attract transporters, raw material and machinery suppliers, BDS providers, etc. to the cluster and also through knowledge spillovers and increased specialization (Marshall, 1890). Clusters also gain due to motivational

effects that arise due to demanding customers, inter-firm rivalries and complementarities (Porter, 1990). Firms also gain due to low transaction cost because of the level of trust that is found in a cluster in general (OECD, 2007).

### Clustering in India: An Overview

According to UNIDO survey, there are 388 SME clusters and about 6000 rural and artisan based micro enterprises clusters in India (MSME, 2006-2007). These clusters can be broadly classified as high-tech clusters, traditional manufacturing clusters and micro enterprise clusters.

High-tech clusters signify clusters with high levels of technology such as IT and IT enabled services, computers, bio- technology and related services, precision instrumentation or avionics, etc. Traditional manufacturing clusters comprised of non-high-tech and non-micro clusters and micro enterprise clusters included low-tech poverty intensive clusters such as handloom, handicraft and other micro enterprises (MSME, 2006-2007). Table 1 gives the classification of the clusters and the number of clusters under each category in India.

Table 1: Typology of Clusters in India

Parameters	Micro Enterprise Clusters	Traditional Manufacturing Clusters	High - tech Clusters
Typology of Products (some examples)	Handloom, Handicraft, Coir, Village Industries	Leather & Leather Products, Automotive Components, Ceramics etc	Information Technology, Pharmaceuticals, Bio-technology, Computers, Tourism, Education etc
Number of Clusters	6000	388	20 approximately
% share of total clusters	93.6	6.1	0.3

*Source: Foundation for MSME Clusters, (2007) based on Annual Reports of various Ministries, Government of India and UNIDO CDP cluster database and estimates.*

Table 2 exhibits the total estimated clusters in India (except high-tech clusters) according to the UNIDO, and the Development Commissioner, SSI, Government of India.

It is evident that there were very few high-tech clusters in India and handloom and handicraft clusters dominated the cluster landscape of the country. This emphasizes the need for

a strategy to foster the development of handloom and handicraft clusters and enable them to survive and grow.

Table 2: Industrial Clusters (SMEs) and Micro Enterprises in India

Typology	Number of Clusters	
	UNIDO* Estimates	DC SSI** Estimates
Traditional Manufacturing SME Clusters	388	2042
Micro enterprises		
Handicraft	2780	2960
Handloom	594	372
Others	2896	2831
Total	6270	6163

Source: Foundation for MSME Clusters, (2007) based on \*UNIDO Cluster Development Project, India, New Delhi. \*\*Government of India (2004), Report on Third Census of Small Scale Industries, Development Commissioner Small Scale Industries.

### Contribution of MSME Clusters to Employment

MSME clusters have significantly contributed to employment in India. They were estimated to generate employment for 7.5 million people and contributed to an economic output of Rs. 1, 57,000 crore in the national economy (MSME Clusters, 2007). As per the estimates of the Entrepreneurship Development Institute of India (EDII), clusters in India constituted 72% of employment.

Table 3 shows the estimated share of employment in clusters in India. It can be observed from the table that micro-enterprise clusters provided employment to the tune of 80% and traditional manufacturing clusters contributed to 14% of estimated share of employment. The number of high-tech clusters was about only 20 (twenty) as compared to micro-enterprise clusters (6000) in number and traditional manufacturing clusters were only 388.

### Bamboo—the Mainstay of Handicrafts in NE

North East India is a storehouse of different species of bamboo forests. In NE India, manufacturing activities are based on locally available resources. The large scale manufacturing sector in NER is virtually non-existent (NEC, and Ministry of DoNER, 2007). In the absence of large and medium enterprises, in almost all parts of North East Region micro enterprises play a vital role in the region.

Bamboo industry in North East India is largely a rural-based and labour-intensive industry which has the advantages of shorter gestation period and most of the products are produced by micro and small enterprises. Bamboo and rattan products made the largest single

contribution in the handicrafts sector in India and bamboo industries generates employment to about 20 million people in India (Anitha, 2012). In the case of North East India nearly 12 lakh people are directly or indirectly employed by the bamboo Industry in North East India (Sharma, 2014). Tripura alone produced 50% to 60% of the bamboo sticks used in the agarbatti industry in India (Rao et al, 2009). Two third of the growing stock of bamboo in the country is available in the North East Region (Bahar, 2014). The abundance of raw material in the region made a favorable condition for the people to shift from agriculture sector.

Table 3: Estimated Share of Employment in Clusters in India

Parameters	Micro enterprise Clusters	Traditional Manufacturing Clusters	High - tech Clusters
Typology of Products (some examples)	Handloom, handicraft, coir, village industries	Leather & Leather Products automotive components, ceramics etc	Information Technology, pharmaceuticals, bio-technology, computers, tourism, education etc.
Number of clusters	6000	388	20 approximately
Estimated share of employment (by cluster typology)	80%	14%	6%

Source: Foundation for MSME Clusters, (2007) [based on UNIDO Cluster Development Project, India, New Delhi. Government of India (2004), Report on Third Census of Small Scale Industries, Development Commissioner Small Scale Industries.]

In the NE cluster development initiatives was initiated in the year 2008 aiming at bringing sustainable rural economic development. A state wise report on handicraft cluster in NE is shown below (Table 4). Table 4 shows that handicraft clusters in NE play a very important role. 164 handicraft clusters in the region provide employment to a huge populace in the region.

### Bairabi Bamboo Cluster

Bairabi bamboo cluster is located in Kolasib district in Mizoram and comprises of four villages namely Bairabi, Meidum, Pangbalkawn and Chhimluang. It is the only bamboo cluster mapped in the State. The enterprises in the cluster were engaged in producing different bamboo products namely, bamboo poles, bamboo crates, bamboo square stick for aggarbati, bamboo basket (*Emping* and *Paikawng*), bamboo container (*Khoor Fawng*), *Thenpai*, *Chhuanchhan* and bamboo square chip. However some of the products which were produced previously by the entrepreneurs namely *Thenpai* and bamboo square chip had been discontinued and the demand for some of the products namely bamboo container (*Khoor Fawng*) and *Chhuanchhan* has been declined. The main reasons for the discontinuation of some of the products were observed to be the absence of demand for these products and high cost of production.

Table 4: State-wise Distribution of Handicraft Cluster in NE India

State	Handicrafts Clusters
Arunachal Pradesh	09
Assam	26
Manipur	22
Meghalaya	11
Mizoram	4
Nagaland	17
Tripura	61
Sikkim	14

Source: Govt. of India (2011), “Working group report on Handicrafts for the 12th Five Year Plan”, Ministry of textile. P-43

### Research Methodology

The study is restricted to Bairabi bamboo cluster. For the purpose of the present study, an entrepreneur is defined as one who is carrying out bamboo activities or managing the bamboo activities for commercial purpose and also produces bamboo products. The researcher relied on primary data as well as secondary data. The primary data was collected through a structured questionnaire was administered to all entrepreneurs (39 in number) during July 2015 to September 2015.

### Discussion

The results of the survey are presented are presented making reference to two main elements: demographic profile of the entrepreneurs and income generation effects related to the bamboo enterprises.

### Age at the Time of Entry

Table 5: Age Distribution of the Entrepreneurs at Commencement of Business

Age Group	Frequency	Percent
Below 20	4	10.26
20 to 29	18	46.15
30 to 39	7	17.95
40 to 49	7	17.95
50 to 59	2	5.13
60 and above	1	2.56
Total	39	100.00

Source: Field work

Traditionally, the male members of the Mizo and Bru community imbibed the skills and crafts of producing bamboo related products from their forefathers. Lalrinawma (2005) observed that in Mizo traditional society, bamboo was used for making different things for house use and for building houses and one who owned was regarded a rich men. Hunting equipment, fishing equipment, container, basket, hats etc. were produced from bamboo and these activities are usually done by men.

Knowledge and skills are transmitted from father to son as apprenticeship in artisans' households. It is evident that this has prompted the entrepreneurs to take control of his own enterprise at an early age. The craftsmen usually abstain from active participation in their enterprise after attaining the age of 60 years.

### **Marital Status of Entrepreneurs**

The marital status of the entrepreneurs has been enquired into to understand the income generated by the men towards the family. Lalrinawma (2005) highlighted that in Mizo society, men were responsible for their family affairs and all difficult jobs like clearing the jungle for jhum, hunting and fishing etc. were done by men which gives them subsistence living. As a patrilineal society, men are responsible for generating income for the family and the income generated by men is reflected in the standard of living of the family. The position of women in the family as well as in the social life is subordinate to men. The marital status of the sample entrepreneurs is shown in Table 6.

Table 6: Marital Status of the Entrepreneur

<b>Marital Status</b>	<b>Frequency</b>	<b>Percent</b>
Married	36	92.31
Divorced	3	7.69
Total	39	100.00

*Source: Field work*

It was observed that 92.31% of the entrepreneurs were married and 7.69% of the entrepreneurs were divorced and there was no unmarried entrepreneur in the cluster. It is observed that married men were generating the income of the family by carrying bamboo and its related activities. It appears that bamboo and its related activities as an occupation had been an important source of household income in the cluster.

### **Main Occupation of Entrepreneurs Prior to Commencing Bamboo Enterprises**

The entrepreneurs in Bairabi cluster are reported to be occupied in some other occupation before entering into this venture. The factors such as availability of resources, expertise, technical knowledge and level of income decide the nature of occupation adopted. According to Das and Das (2011), the under-development of agriculture and basic infrastructure coupled with

low industrialization in North East Region had compelled the rural population to take up some economic activities based on their skills. The previous occupations of the entrepreneurs have been enquired into to understand whether there was a shift of occupation to bamboo enterprises in providing employment in the cluster and to examine the pattern of this shift if any. The previous occupations of the entrepreneurs of the bamboo enterprises have been presented in the Table 7.

Evidently, out of the total 39 entrepreneurs, majority of the entrepreneurs i.e. 56.42% were either unemployed or farmers. Similarly, 33.33% of the total entrepreneurs were engaged in some other business activities. 5.13% of the entrepreneurs were temporary government employees and 5.13% of the entrepreneurs were government employees before undertaking bamboo enterprises.

Table 7: Occupation Prior to Commencing Bamboo Enterprise

	Frequencies	Percent
Unemployed	11	28.21
Agriculturist	11	28.21
Business	13	33.33
Temporary Government Employees	2	5.13
Government Employees	2	5.13
Total	39	100.00

*Source: Field work*

It can be inferred that 33.33% of the entrepreneurs are supplementing income of the family by opening new venture in bamboo enterprise. However, 28.21% of the entrepreneurs are compelled to switch from agriculture activities to bamboo enterprise due to low productivity, non-availability of cultivable land, lack of market for their agriculture products etc. Further, the bamboo enterprise also supported 28.21% of the entrepreneurs who were unemployed and this occupation has become the source of livelihood for them. It is evident that bamboo enterprises have presented a profitable avenue for livelihood.

### **Share of Different Products in the Total Sales of Enterprises**

The researcher assessed the share of different bamboo products manufactured by the enterprises in the cluster in order to understand which products are significantly contributing to the total sales turnover of the cluster. Table 8 shows the share of different products in the total sales turnover of the enterprises.

Bamboo poles and bamboo crates were the most dominant products with a combined share of more than 98% in the total sales turnover of the enterprises in the cluster during the period 2012 to 2015. Bamboo poles maintained the highest share of 93.7%, 94.47% and 92.45%



among all the products in the total sales of enterprises in the cluster in the years 2012-13, 2013-14 and 2014-15 respectively.

Table 8: Share of Different Bamboo Products in the Total Sales of Enterprises

Particulars	2012-13	2013-14	2014-15
	Share (%)	Share (%)	Share (%)
Bamboo Poles	93.73	94.47	92.45
Bamboo Crates	4.94	4.48	6.07
Bamboo Square Stick	0.43	0.39	0.50
<i>EmSin</i>	0.33	0.29	0.39
<i>Emping</i>	0.34	0.28	0.39
<i>Thlangra</i>	0.20	0.06	0.16
<i>Paikawng</i>	0.04	0.03	0.04
Total	100.00	100.00	100.00

Source: Ramnundanga and Ramswamy, Rama (2017), "Clustering of Bamboo Enterprises In NE India: Bairabi Cluster, Mizoram", SEDME, Vol. 44(1), March, P- 41.

### Income from Enterprise

The study enquired into the economic status of the entrepreneurs on the basis of their income from bamboo enterprises. A comparison has been made to the average earnings of the bamboo enterprises in some other parts in the country wherever possible. Table 9 shows the annual income of the entrepreneurs from bamboo enterprises.

Table 9: Annual Income of the Entrepreneurs from the Enterprise

Income (in Rs.)	No of Entrepreneurs	Percent
Up to 20000	6	15.38
20001 to 40000	16	41.03
40001 to 60000	11	28.21
60001 to 80000	0	0
80001 to 100000	1	2.56
100001 to 500000	3	7.69
Above 500000	2	5.13
Total	39	100.00

Source: Field work

Table 9 shows that 5.13% earn more than Rs. 500000, 7.69% earn Rs. 100001 - 500000, 2.56% earn Rs. 80001 – 100000, 28.21% earn Rs. 40001 – 60000, 41.03% earn Rs. 20001 – 40000 and 15.38% of entrepreneurs earn up to Rs. 20000 annually, from bamboo activities only. The average annual income from bamboo enterprises in the cluster is Rs. 71,754 per enterprise.

A comparison has been made with some other bamboo and crafts clusters and bamboo industry in the country and North East Region. Das and Das (2011) observed that more than 650 artisans in Barpeta bamboo cluster were earning Rs. 4500 per month (Rs. 54000 annually). A study on Murshidabad Cane and Bamboo Cluster revealed that the artisans normally get the wages of Rs. 60 per day which were enhanced to Rs. 66 per day. Anitha (2012) observed that the average monthly income from bamboo among bamboo dependents in Kerala, Tamil Nadu, Karnataka and Andhra Pradesh were Rs. 1964 (Rs. 23568 annually), Rs. 3045 (Rs. 36540 annually), Rs. 2401 (Rs. 28812 annually) and Rs. 2795 (Rs. 33540 annually) respectively. Handique (2009) observed that the average annual income of 86 rural sampled bamboo units in Assam was Rs. 20787.83 and that of 45 urban sampled bamboo units was Rs. 32559.09.

A comparison to other Handicrafts and Bamboo clusters in the country shows that the average earnings of the entrepreneurs in Bairabi also compares favourably to other clusters and industries such as Sikkim Wood Carving and Cane & Bamboo Cluster, Murshidabad Cane and Bamboo Cluster and Barpeta bamboo cluster.

### **Dependence of Entrepreneurs on Bamboo Enterprise to Generate Income**

The income generated from bamboo enterprise for the entrepreneurs' families was also enquired into to find out the levels of dependence of the entrepreneurs on bamboo enterprise as a source of income.

From Table 10, it is evident that one third (33.33%) earned less than 20% of their total family income from bamboo work, 12.82% earns 20% to 40% of their income from bamboo work, 12.82% earns 40% to 60% of their income from bamboo work, 28.21% earns 60% to 80% of their income from bamboo work and 12.82% earns more than 80% of their income from bamboo work.

Table 10: Percentage of Income from Bamboo Enterprise to Total Income

Percentage	No of Entrepreneurs	Percent
Less than 20	13	33.33
20 to 40	5	12.82
40 to 60	5	12.82
60 to 80	11	28.21
80 and above	5	12.82
Total	39	100.00

*Source: Field work*

As Mizoram falls in the heavy rain zone, bamboo based activities are usually not carried out in the monsoon months. The seasonal months for bamboo based activities in the cluster are

from October to April of every year. During these months all the entrepreneurs in the cluster were actively occupied with bamboo based activities. It is evident from Table 6 that a significant portion of the craftsmen in the cluster were solely dependent on their enterprises for their subsistence during these seasonal months.

As bamboo activities cannot be conducted during the rains due to inclement weather, majority of the enterprise are forced to explore other forest based and agro based activities during the rainy season. The researcher found that most of the entrepreneurs did not have the facility of separate shed to store bamboo to carry on their activities throughout the year.

### **Conclusion and Suggestions**

Bamboo related activities are a significant source of livelihood in Bairabi cluster. The cluster has steadily grown over the decades providing livelihood option to the households in this remote corner of North-East India. The cluster has worked as a vehicle for rural poverty alleviation, rural income generation and regional economic development. However, there seems to be very little value addition to the raw material. The artisans were manufacturing intermediary products such as bamboo poles, bamboo crates, bamboo square stick etc. which could be processed further to produce niche products which would fetch premium prices in the market (Ramnundanga & Ramswamy, 2017). It appears that the artisans are constrained by other factors such as weak market links, access to availability of credit and lack of machines to innovate their product mix. In the light of these findings, the setting up of a Common Facility Centre (CFC) would enable the cluster to expand the product mix by adding value to the raw materials.

The market reach of traditional products namely *Emping*, *Emsin*, *Kho*, *Thlangra*, *Paikawng* and *Chhuanchhan* are restricted to the local market (Ramnundanga & Ramswamy, 2017). However, if systematically exposed and promoted the traditional products would find substantial markets outside the region. The marketing of these traditional products could be greatly enhanced if information relating to source, function, significance in tribal life, and other interesting features of each product were provided along with the product.

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