Entreprenurial Ventures by Women in Self Help Groups in India - A Case on Value Creation Processes for Bamboo Handicrafts

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Abstract: Economic activities carried out by rural women needs to be economically viable and profitable in order to ensure a better livelihood. This paper explores how rural women belonging to Self Help Groups add value to bamboo by converting them into attractive handicrafts, what are the costs involved and what are the earnings from this economic activity. The study describes the activities involved in making the value chain, the marketing avenues and the problems in marketing the finished products. The study has been based on a combination of observational research, direct interaction, interviews and field surveys and administration of a structured questionnaire to the women in SHGs engaged in bamboo handicraft. Problems of these rural women micro-entrepreneurs have also been highlighted and recommendations to instill efficiency in the system have been made.

Key Words: Women entrepreneurs, Bamboo Handicrafts, Self Help Groups, Value Addition

I. Introduction

Women entrepreneurs symbolize an important category of entrepreneurship throughout the globe and have received the attention of many researchers in the last decade. Women can make considerable contribution to entrepreneurial activity (Nogueira et al., 2013) and economic development (Kelley et al., 2017; Hechevarría et al., 2019) in terms of creating new jobs and enhancing the gross domestic product (GDP) of a country (Bahmani-Oskooee et al., 2013; Ayogu and Agu, 2015), The World Bank Group- Gender and Development (2014) reported that after agriculture, the second most significant way of women’s jobs is home-based work. Throughout the globe a large number of women artisans are engaged in some income-generating activities from home or areas nearby home. Pottery, horticulture, garment production, food processing, handicrafts, coir products, bamboo and cane products, poultry, dairy, etc are the activities which are carried by women micro-entrepreneurs.

This paper deals specifically with women entrepreneurs who are engaged in making handicrafts from bamboo. Bamboo has been playing a pivotal role for years in fulfillments of several needs of...
the farmers, poor people and every villagers. Starting from the early days of civilization of using as weapon, firewood, shelter to the modern era of decorative works, bamboo has been playing its role in a befitting way. “Bamboo is considered to be a multipurpose plant having about 1500 documented uses as medicine, food and fodder, preventing soil erosion etc. and is one of the world’s best engineering material because of its high tensile strength”, (Scurlock, Dayton & Hames, 2000). Products made from bamboos can be classified in two categories, viz. ‘Traditional’ and ‘Decorative’ or non-conventional items. Traditional uses of bamboo include making pillars and roof structures of houses, ceilings, boundary fences, weapons, bridges, baskets, instruments for agricultural and household uses, and also widely used in traditional fishing.

Decorative or non-conventional uses of bamboos include making of designed chairs, tables, sofas, furniture, trays, pen stands, wall hangings, masks, boast, flower vases, lamp-shades dolls, idols and a variety of handicrafts. Making of handicraft products from bamboo provide a viable livelihood option for the rural poor in India, particularly in the states of Assam, Tripura, Meghalaya, Manipur and West Bengal. “The handicrafts sector plays a significant and important role in the country’s economy, substantially contributing to large-scale employment generation and exports. It also constitutes the cultural lifeline of the country and represents its rich heritage.” (AIACA 2017).

North Bengal, a part of West Bengal in India has the privilege of having a rich supply as resources for conventional and non-conventional uses. 34 species of bamboo under 13 genera were identified in North Bengal by Arvind Kumar Goyal et al, (2012). This paper deals with a specific district, Coochbehar in North Bengal because of the fact that bamboo handicrafts of Coochbehar have developed good repute and market all over India. “Handicrafts of Cooch Behar District are famed all over the country for their exquisite beauty and abundant variety. The tradition of making different handicrafts has emerged in the district ages ago.” (indianetzone 2018).

Coochbehar has a total geographical area of 3,38,700 hectares, out of which cultivable Area is 2,58,296 hectares. (NIC, Coochbehar 2020). A large number of Self help Groups under National Rural Livelihood Mission have been formed and are operating in this district. At the end of March 2021, the total number of SHGS in Coochbehar were 48,667 having a total of 4,76,348 members participating in these groups. Out of these groups 30,658 were new groups, 1,006 were revived groups and 17,003 were pre- NRLM groups. (Ministry of Rural Development, GOI). Though the actual number of SHG members engaged in making bamboo handicrafts were not available, visits to all blocks in the district revealed that more than a five hundred groups had members who were engaged in this economic activity. It is pertinent to mention here that out of these few groups were engaged in this economic activity totally as a group. In other groups women members had taken up bamboo handicraft making as their individual economic activity.

However, questions arise whether this economic activity adds value to raw bamboo, is actually taken up by the customers and whether this provides resources for a sustainable livelihood for the women SHG members. Very little research has been conducted to bring out these aspects.
II. Value Addition in Bamboo Handicrafts and Related Review of Literature.

Value is what a customer gets in exchange for the price it pays (Anderson and Narus, 1998). A value is created only when a customer wants the product by paying something for that. To create value of a product, a producer has to go through a number of activities. Starting from planning, arrangement of money, land, labour, raw materials, plant etc. to procurements, packing, marketing, sales and services - a long list of activities are associated with an organization. All the activities together help the producer to make a product or to create and add more values of a product, and finally sell them to the customers.

Research by Greijmans, Oudomvilay and Banzon (2007) in Lao PDR case says women have a role in the value chain of the bamboo industry in collecting and processing until the sale of bamboo handicrafts Lee et al. (2010) surveyed ten bamboo handicraft expert craftsmen also in Taiwan. The study found that regarding bamboo craftsman, craftsmanship (hands-on skills) is the main component in the production of bamboo handicrafts.

Ingram and Tieguhong (2012) studied the value chain of bamboo in Cameroon taking into consideration the harvesters, crafts persons, sellers and consumers and found that most of the crafts men do their work individually at their own workplace and produce thirteen types of products. Road side sales to the local clients are mostly seen and 75% of total income of the sellers is earned from this. Consumers mostly purchase for construction purposes followed by furniture, agriculture, tools and utensils, and fuel as a possible cheap rate.

Effah, B. et al. (2014) have made a study to assess the economic empowerment of the artisans through Bamboo and Rattan enterprises in Kumasi metropolis of Ghana. In the study most of the respondents mentioned it as a profitable venture and moderate income generating business that helps in eradicating poverty. The study also observed that social acceptance and durability are the motivating factors for producing the bamboo and rattan.

Dhar and Sarkar (2013) suggested that marketing strategies in ensuring sustainability of Self – Help Groups should be devised for handicrafts made by Self Help Groups and avenues of marketing of handicrafts of the SHG micro entrepreneurs should be made more accessible. Dutta (2014) studied the role of cane and bamboo craft cluster in the economic development and said that these crafts resulted in utilization of natural resources, employment generation, increase in income, lesser pressure on land, development of markets, and are found to be the positive indicators of economic development.

Khatanair (2017) found that “many artisans primarily depend upon traditional techniques of production, a few of them trying to cope up with the recurrent changing demand of the buyers by means of creating new design. However, there is a growing demand for bamboo products in the local market and in the regional level and the monthly sales of most of the artisans were in the range of Rupees 10,000/- to Rupees 25,000/-.”

Ahmad et al. (2018) studied the different associated factors and perspectives of bamboo craft industry, from sources of materials to role of government, with the help of value chain analysis in
Indonesia. The study found a revenue growth among the bamboo craft businesses and prescribed that innovation in design, differentiation through color and size, are necessary to make the products unique. The study also found that product promotional aspects with marketing and distributing channels of the bamboo handicrafts needed to be more effective.

Phukan (2018) found that “the bamboo handicraft sector is under immense pressure as far as the artisans are concerned mainly due to its unorganized stature along with the additional inhibitors, viz. poor development indicators and indices, low capital, poor exposure to new technologies, absence of market intelligence, presence of the formal and non-viable informal sector, lack of a proper institutional and organizational arrangements”

Research Gaps: The literature reviewed above is indicative and is not being claimed to be exhaustive. These studies identified bamboo based handicrafts helped in utilization of natural resources, employment generation and increase in income though there were deficiencies in use of technology and marketing support. However, there remains a gap in identifying the value addition made by producing bamboo handicraft items specially by members of Self Help Groups. Since value addition to raw bamboo entails costs, it is also essential that such costs be ascertained and taking cue from the earlier studies a large gap also exists in ascertainment of costs. Moreover gaps exist in identifying at the micro-level the problems in production and marketing of bamboo products by members of Self Help Groups.

III. Objectives And Methodology of the Study

Keeping in view the gaps in research, the study aims to explore how value addition is made to bamboo through handicrafts, the cost entailed in such manufacturing, revenue generated from such economic activity and whether any problems exist in marketing of the products.

The specific objectives of the study are listed below.

i. To study the primary and secondary activities which contribute to adding value by way of converting raw bamboo to bamboo handicrafts by the women micro-entrepreneurs who are members of different Self Help Groups.

ii. To explore the type of bamboo handicrafts being produced by the SHG micro-entrepreneurs and the costs expended for such activities

iii. To find out the value added through production and marketing, the revenue generated and the profit accrued to the SHG micro-entrepreneurs through this economic activity.

iv. To find out the problems encountered by the women micro-entrepreneurs of the SHGs in pursuing this economic activity and suggest remedial measures.

Methodology: The case based study has been done with the combination of observational research and primary data have been collected through direct interaction, interviews and field surveys of the bamboo craft producers with the help of a structured questionnaire. Visits and observations have been made at the workhouses of micro-entrepreneurs to gather information about the products made, raw materials used and cost items. Visits have been made to local markets (haats), local fairs (melas),
fairs organised by the Government like “SARAS” and “SABALA” and dealers and middlemen who buy the handicrafts from the micro-entrepreneurs to ascertain the price and revenue generated from different handicraft items. Some secondary data have also been collected from DRDC office, cluster offices of different blocks and information preserved with the SHG entrepreneurs.

As stated in the introduction this study is based on SHGs in Coochbehar district in West Bengal where approximately five hundred groups were engaged in making bamboo handicrafts. However, the nature of economic activities were very diversified. There were very few groups who took up handicrafts as their main economic activity. Most of the members had individual economic activities which were very diversified even if they belonged to the same group. Some members were making handicrafts only as a secondary activity as they were mostly engaged in formal or informal wage employments. These types of groups were not considered for the study. After extensive visits in the district, around 27 groups were identified where most of the members took up bamboo handicrafts as their livelihood option. However, members of some groups were not able to respond to many of our questions and queries. Finally 81 members from 17 SHGs of Cooch Behar II, Mathabhanga II and Tufanganj I blocks of Cooch Behar district who were engaged in making of different decorative and traditional bamboo could respond to our queries and questions. The cost and revenue calculations are based on these 81 micro-entrepreneurs. Out of the total, 19 members of 4 SHGs from Cooch Behar II, and 1 member from Tufanganj I blocks are making the decorative items. 12 SHGs with 60 members are making deli and duli, and 1 member of a SHG is making chaluni in Mathabhanga II block. Most of the members do their work individually, or with their family members.

IV. Activities related making Bamboo Handicrafts - The Value Chain

Bamboo crafts making required a special knowledge and skill of the artisans. A craftswomen has to know how to make and follow designs, apply preservatives and dyes, take up smoke treatment & chemical treatment process, operate various bamboo processing machineries and carry out their maintenance. In addition to this these craftsmen must know how to procure the right type of bamboo, store the finished products, package the products and market them. These generalized skills vary according to the type of products made and are acquired from previous generations and also by training today. Tray, Pen Stand, Flower Vase, Wall Scenario, Mask of Lord Ganesh/Elephant, Lamp Shade, Letter Box, Candle stand, Boat, Ship, Hair Clip, Bangles (churi), etc. and some are making chaluni, deli, duli etc. with their family members. The activities which start from procurement of bamboo to marketing of the products, i.e., the activities which add value to raw bamboo are described below. The details of these activities have come up from repeated observations of the activities of the micro-entrepreneurs of the SHGs.

The discussions on value chain for bamboo handicrafts have been based on Michael Porter’s concept of value chain discussed this in his influential 1985 book “Competitive Advantage,” in which he first introduced the concept of the value chain. According to Porter (1985) “A value chain is a set of activities that an organization carries out to create value for its customers.”

Porter proposed a general-purpose value chain that companies can use to examine all of their activities, and see how they’re connected. Based on this concept, Porter listed out a chain of
activities universal to all businesses, and he categorized them into primary and support activities, as given in the diagram below. He said that “The value that’s created and captured by a company is the profit margin:

Value Created and Captured – Cost of Creating that Value = Margin
The more value an organization creates, the more profitable it is likely to be.


1. Primary Activities Associated With The Bamboo Handicrafts

(i) Inbound logistics are the activities associated with arrangement raw materials, which help in converting in to the final products. Several materials used for making the product are to be collected in such way so that the quality and standard with pricing of materials are maintained. Basically, the craftswomen along with their spouses purchase and collect the raw bamboos from locally grown bamboo bushes or from the nearby markets at a comparatively lower prices. Being regular purchasers and having good customer relationship with the suppliers, often help them to get the bamboos available at their doorsteps. They collect the other necessary materials like, plywood, burnish, glue, pin, etc., from Cooch Behar town market, where they get all these items easily at a comparatively cheaper rate. Less price in purchasing the raw materials leads to cost effectiveness that help in creating more value to the entrepreneurships.

(ii) Operations are the processes involved in making of a product from the raw materials. It is the process where operation skills and knowledge of artisans are very much important. Basically, it is the combination of group of activities that starts with cutting and making of bamboo strips, perfect use of other ingredients like ply-wood, glue, pin or threads etc. Burnish is used to maintain the durability and natural look of the craft items. Finally, kerosene made natural colour is used with the help of a blue lamp, which maintains the traditionalism of the craft items. In the entire process of operations of making the crafts, expert artisan skills are required, which mainly comes after a continuous observation and practice. The women entrepreneurs are usually deft in applying preservatives, dyes, smoke treatment & chemical treatment process to preserve bamboo items. They know how to operate various bamboo processing machineries like glue mixing machine & weaving machine and carry out their maintenance. With enhancement in these skills they generate the ability to make superior quality craft items in reduced time which has direct effect in increasing production volume that adds more value to the organization.
(iii) **Outbound Logistics** are the activities that start after the goods are being produced, i.e., the process of distributing the finished goods to the wholesalers, middlemen, retailers, outlets or customers. In case of bamboo handicrafts, outbound logistics are of three distinct types. A part of the finished goods inventory is meant for sales in the local markets or for door to door sales. These items are sent in pedal vans, cycles, motor cycles and other local transport. The same transport modes are used when the items are sold in local fairs or melas. In addition to these marketing avenues there also exists middlemen who collect the items from the doorsteps of the SHG members and in this case the SHG members can save on transport costs. Outbound logistics for items intended for sale in fairs arranged by Government organizations, are principally arranged by the concerned authorities. In cases where the SHG members have to carry the items themselves for sale in outstation SARAS or SABALA fairs, the transport costs are borne by the DRDCs or the clusters.

(iv) **Marketing and Sales activities** are associated with the strategic use of marketing mix that help an organization to reach to its potential and target customers. A few group members had their forefathers making bamboo handicrafts items for years in the past. They used to sell the items in nearby weekly hats and some wholesalers of different towns of Cooch Behar district and Alipurduar district. The tradition still continues and a significant percentage of their produce is sold in the local markets or hats. A substantial portion however is sold in different fairs organized in the district or in different parts of West Bengal by the District Rural Development Centers and other Government and Non-Government agencies. These middlemen also help the SHG members to maintain their liquid cash requirements by selling their crafts throughout the year and providing them advances when required. It is the most important part to understand what are the products they are producing and who are going to buy the products. The craft items that the women entrepreneurs make are mainly decorative in nature. These products are mainly purchased by customers with the aim of decorating their houses or offices, who want fanciness with traditional feels in the products, and they can pay higher value for attractive items. The market place is to be chosen wisely, so that they can reach to such customers. The local hats are useful for selling the traditional items, like- Chaluni, deli etc., which are mainly purchased by the rural people for their household uses. Saras, Sabala and other handicraft fairs organized by different government agencies have become a big marketplace for the SHG made handicraft products, where different segment of people attend the fairs, and the high end customers find their desirable products from there. A well designed and well planned marketing or promotional strategy and advertising campaign is also very much effective for an enterprise. Products like- Tray, flower vase, masks, pen stand, boat, ship etc. are available at lower prices with plastic or other fancy materials, but the importance of handicrafts cannot be underestimated even though their prices are higher. The lower income group people generally do not prefer the decorative crafts due to huge price of the products. The products must match the customers’ desire, where the quality, attractiveness and fanciness should not be compromised by the producers’ side. Well-furnished packing, taking the safety measures should also be there to sale them to the customers. Effective and efficient sales and marketing of the products leads towards more value addition to the enterprises.
**Services** are the after sales services like repairs, maintenance etc. provided by the organization to the customers. But there is a very little or no scope of these activities in the crafts making entrepreneurships.

### 2. Supportive or Secondary Activities

The activities which are not directly related in making of the finished products, but have high impact on the completion of the primary activities. These activities are also known as Secondary activities. The role of support activities are discussed as follows:

(i) **Procurement** is the process of ensuring the sources of raw materials at the best possible price, keeping in mind the standard and quality of materials. Every available alternative sources of materials has to be evaluated in terms of QCD (Quality, Cost and Delivery Time) before placing orders.

In case of bamboo handicrafts, bamboo is the main raw material. The main varieties of bamboo procured are *Bambusa Balcooa* (Boro Bans), *Bambusa nutans* (Makla Bans) and *Dendrocalamus giganteus* (Koko Bans). The entrepreneurs collect these varieties of raw bamboos from the local markets or from the locally grown bamboo bushes. These varieties are available at cheaper rates from the neighboring state Assam if purchased in bulk. However, the members of SHGs essentially being micro-entrepreneurs lack the capacity to arrange for the necessary finance to make bulk purchases. Other necessary raw materials such as ply boards, glue, thread etc are generally purchased from wholesale markets in the district town of Cooch Behar at a cheaper rate compared to the local village markets.

(ii) **Firm infrastructure**—Nothing very formal exists in terms of firm infrastructure. The entrepreneurs, mostly women are usually organized into Self Help Groups, where they operate either together as a group or as individuals from the group. Support in terms of marketing, liaison with banks, arrangement for participating in fairs are sometimes arranged by the Clusters.

(iii) **Human Resource Management**—The bamboo crafts producing entrepreneurs are mainly poor women who do their job after completing their household activities. Though, there is no need of employees’ management, as the entrepreneurships are micro in nature and the SHG women are the entrepreneurs themselves, and do not hire any employees for crafts making purposes. The SHG members engaged in making of bamboo crafts are experts due to regular practice and crafting for a long time and also because of their forefathers being engaged in the same line of activity. Very few have had the opportunity of get any formal training from the District Rural Development Cell (DRDC) or any other government or non-government agencies. A handful of these micro-entrepreneurs received training under Craftsman Training Scheme of the Ministry of Skill Development & Entrepreneurship.

(iv) **Technology development**—The use of technology in obtaining a competitive advantage is very essential in today’s technology driven environment. Technology can be used in many areas, including production in reducing cost, research and development to develop new products and e-payment mechanism that ensure 24X7 access to the customers. Being micro in nature and having lack of technological knowledge, they prefer complete hand-made...
crafts and physical markets rather use of modern technology. This ultimately, hindrances the output capacity with quality and fanciness, and also the marketability of the products. However, it was found that in two cases, young members had the ability to install and utilize AutoCAD software to prepare different shapes and design of the products.

V. Analysis of Costs, Revenues and Profits from Bamboo Handicrafts

1. Input Costs of the Materials used:

Average price of the materials has been considered after gathering information from different markets, SHG entrepreneurs, which are given below-.

(i) Primary raw materials - Bamboo poles
   (a) *Bambusa nutans* (Makla Bans) – ₹ 70- 80/ pc;
   (b) *Bambusa Balcooa* (Boro Bans)- ₹ 90/ pc;
   (c) *Dendrocalamus giganteus* (Koko Bans). – ₹ 300/piece

Other materials
(ii) Ply wood: ₹ 250 per unit
(iii) Glue: ₹ 130/ ltr.
(iv) Plastic Thread: ₹ 500/ Kg
(v) Kerosene: ₹ 65/Ltr
(vi) Burnish for polishing purposes: ₹ 260/ Ltr
(vii) Pin: ₹ 80-90/Kg.

(ii) Fixed Costs: The instruments used for making the products are considered as fixed costs, which are -Chopper (dao), Knife, Blue-lamp, Drill Machine, Scissors, Hammer, Pliers, Axe, and Chisel etc.

<table>
<thead>
<tr>
<th>Cost Elements</th>
<th>Price (₹)</th>
<th>Estimated Life</th>
<th>Cost per Year (₹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chopper 2 units @ ₹ 270 each</td>
<td>540.00</td>
<td>3 Years</td>
<td>180.00</td>
</tr>
<tr>
<td>Knife 2 units @ ₹ 60 each</td>
<td>120.00</td>
<td>2 Years</td>
<td>60.00</td>
</tr>
<tr>
<td>Blue Lamp</td>
<td>1,200.00</td>
<td>5 years</td>
<td>240.00</td>
</tr>
<tr>
<td>Drill Machine</td>
<td>950.00</td>
<td>5 years</td>
<td>190.00</td>
</tr>
<tr>
<td>Scissors and screw drivers</td>
<td>130.00</td>
<td>2 Years</td>
<td>65.00</td>
</tr>
<tr>
<td>Hammer chisel</td>
<td>120.00</td>
<td>5 Years</td>
<td>24.00</td>
</tr>
<tr>
<td>Combination Pliers, round and flat nosed pliers</td>
<td>70.00</td>
<td>2 years</td>
<td>35.00</td>
</tr>
<tr>
<td>Axe</td>
<td>180.00</td>
<td>5 years</td>
<td>36.00</td>
</tr>
<tr>
<td>Chisel 2 units @ ₹ 120 each</td>
<td>240.00</td>
<td>3 years</td>
<td>80.00</td>
</tr>
<tr>
<td>Steel measuring tape and folding scale</td>
<td>200.00</td>
<td>1 Year</td>
<td>200.00</td>
</tr>
<tr>
<td><strong>Total (₹)</strong></td>
<td><strong>1,110.00</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cost per month (Cost per year/ 12 months)</strong></td>
<td><strong>₹ 92.50</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source : Self Calculated on the basis of Field Survey data*
It will be proper to state here that most of the members of the SHGs have been producing handicrafts for quite a long time and it is expected that their fixed costs have already been recovered through sales over this periods. The fixed costs have therefore not been considered here for calculating the total costs and profits of the micro entrepreneurs in the current period.

The total costs of the handicrafts produced therefore includes only material costs, primarily being variable in nature. Labor costs are not considered as the SHG members make the products themselves. Overhead costs such as cost of electricity, transport, storage costs have been apportioned and allocated taking total number of units as the base.

The selling price per unit has been taken, based on the average prices fixed by the DRDC-Cooch Behar, middlemen, price in fairs and finally entrepreneurs’ price. Determination of price of products is one of the most important factors for sustainability of this business. Discussions with the members clearly depict that they are not aware of any pricing mechanism, whether they follow market based pricing or cost plus markup pricing. After attending several fairs they get some idea about prices of same products from other entrepreneurs. Price tags are comparatively more in fairs and that’s why many entrepreneurs prefer to sale the crafts in fair rather selling them to the middlemen.

The profit margin earned from each type of handicraft is given in table 2.

**Table 2: Costs, Profits, Value added and Profit Margins per unit of different bamboo handicrafts.**

<table>
<thead>
<tr>
<th>Items</th>
<th>Cost per Unit (₹)</th>
<th>Value of the products (Price per Unit) (₹)</th>
<th>Value Added or Profit per Unit (₹)</th>
<th>% of Profit Margin on Costs (₹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Tray- Large size</td>
<td>38.32</td>
<td>180.00</td>
<td>141.68</td>
<td>369.73%</td>
</tr>
<tr>
<td>ii. Tray- Medium size</td>
<td>27.64</td>
<td>130.00</td>
<td>102.36</td>
<td>370.33%</td>
</tr>
<tr>
<td>iii. Tray- Small Size</td>
<td>21.59</td>
<td>100.00</td>
<td>78.41</td>
<td>363.18%</td>
</tr>
<tr>
<td>iv. Pen stand</td>
<td>15.63</td>
<td>50.00</td>
<td>34.37</td>
<td>219.90%</td>
</tr>
<tr>
<td>v. Flower vase</td>
<td>15.25</td>
<td>80.00</td>
<td>64.75</td>
<td>424.59%</td>
</tr>
<tr>
<td>vi. Wall Scenario</td>
<td>20.93</td>
<td>100.00</td>
<td>79.07</td>
<td>377.78%</td>
</tr>
<tr>
<td>vii. Lamp Shed</td>
<td>30.33</td>
<td>180.00</td>
<td>149.67</td>
<td>493.47%</td>
</tr>
<tr>
<td>viii. Mask</td>
<td>29.50</td>
<td>100.00</td>
<td>70.50</td>
<td>238.98%</td>
</tr>
<tr>
<td>ix. Letter Box- Single</td>
<td>23.00</td>
<td>150.00</td>
<td>127.00</td>
<td>552.17%</td>
</tr>
<tr>
<td>x. Letter Box- Double</td>
<td>43.06</td>
<td>280.00</td>
<td>236.94</td>
<td>550.26%</td>
</tr>
<tr>
<td>xi. Candle Stand</td>
<td>27.20</td>
<td>50.00</td>
<td>22.80</td>
<td>83.82%</td>
</tr>
<tr>
<td>xii. Boat</td>
<td>25.45</td>
<td>100.00</td>
<td>74.55</td>
<td>292.93%</td>
</tr>
<tr>
<td>xiii. Ship</td>
<td>32.10</td>
<td>250.00</td>
<td>217.90</td>
<td>678.82%</td>
</tr>
<tr>
<td>xiv. Hair Clip</td>
<td>5.33</td>
<td>30.00</td>
<td>24.67</td>
<td>462.85%</td>
</tr>
<tr>
<td>xv. Bangles (a pair)</td>
<td>4.84</td>
<td>20.00</td>
<td>15.16</td>
<td>313.22%</td>
</tr>
<tr>
<td>xvi. Chaluni</td>
<td>10.25</td>
<td>45.00</td>
<td>34.75</td>
<td>339.02%</td>
</tr>
<tr>
<td>xvii. Deli</td>
<td>12.25</td>
<td>45.00</td>
<td>32.75</td>
<td>267.35%</td>
</tr>
<tr>
<td>xviii. Duli</td>
<td>242.00</td>
<td>550.00</td>
<td>308.00</td>
<td>127.27%</td>
</tr>
</tbody>
</table>

*Source: Self Calculated on the basis of Field Survey data*
Though the above table is self explanatory, certain points need to be highlighted. The profit margins per unit are quite high. Most of the items have margins exceeding 300% and the highest margin found here is 678%. These figures seem to very encouraging as an entrepreneur who has to spend about Rs 38 in making a tray can recover more than three times the amount spend if the product is sold.

However, the real earnings can be only estimated when actual sales of the items are considered. If there are no sales then there is no income for the group members. Hence, the analysis has been extended by calculating the total profits earned by a group in a month. The number of units sold are gross averages of the items sold by the groups. The calculations are shown in table 3.

**Table 3: Turnover and Total Profit margins generated by a SHG group per month.**

<table>
<thead>
<tr>
<th>Products</th>
<th>No. of units sold</th>
<th>Value or Price per unit (₹)</th>
<th>Total Value or Sales Revenue (₹)</th>
<th>Cost per unit (₹)</th>
<th>Total Costs (₹)</th>
<th>Margins or Profits (₹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Sales Revenue and Profit margins in a month from decorative items:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tray- Large size</td>
<td>10</td>
<td>180.00</td>
<td>1,800.00</td>
<td>38.32</td>
<td>383.20</td>
<td>1,416.80</td>
</tr>
<tr>
<td>Tray- Medium size</td>
<td>10</td>
<td>130.00</td>
<td>1,300.00</td>
<td>27.64</td>
<td>276.40</td>
<td>1,023.60</td>
</tr>
<tr>
<td>Tray – Small Size</td>
<td>5</td>
<td>100.00</td>
<td>500.00</td>
<td>21.59</td>
<td>107.95</td>
<td>392.05</td>
</tr>
<tr>
<td>Pen Stand</td>
<td>10</td>
<td>50.00</td>
<td>500.00</td>
<td>15.63</td>
<td>156.30</td>
<td>343.70</td>
</tr>
<tr>
<td>Flower Vase</td>
<td>10</td>
<td>80.00</td>
<td>800.00</td>
<td>15.25</td>
<td>152.50</td>
<td>647.50</td>
</tr>
<tr>
<td>Wall Scenario</td>
<td>10</td>
<td>100.00</td>
<td>1000.00</td>
<td>20.93</td>
<td>209.30</td>
<td>790.70</td>
</tr>
<tr>
<td>Lamp Shed</td>
<td>10</td>
<td>180.00</td>
<td>1,800.00</td>
<td>30.33</td>
<td>303.30</td>
<td>1,496.70</td>
</tr>
<tr>
<td>Mask</td>
<td>10</td>
<td>100.00</td>
<td>1,000.00</td>
<td>29.50</td>
<td>295.00</td>
<td>705.00</td>
</tr>
<tr>
<td>Letter box- Single</td>
<td>10</td>
<td>150.00</td>
<td>1,500.00</td>
<td>23.00</td>
<td>230.00</td>
<td>1,270.00</td>
</tr>
<tr>
<td>Letter box- Double</td>
<td>5</td>
<td>280.00</td>
<td>1,400.00</td>
<td>43.06</td>
<td>215.30</td>
<td>1,184.70</td>
</tr>
<tr>
<td>Ship</td>
<td>30</td>
<td>250.00</td>
<td>7,500.00</td>
<td>32.10</td>
<td>963.00</td>
<td>6,537.00</td>
</tr>
<tr>
<td>Boat</td>
<td>10</td>
<td>100.00</td>
<td>1,000.00</td>
<td>25.45</td>
<td>254.50</td>
<td>745.50</td>
</tr>
<tr>
<td>Total in a month</td>
<td>20,100.00</td>
<td>3,546.75</td>
<td>16,553.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| II. Sales Revenue and Profit margin in a month from household products, sales mainly to middlemen at wholesale price: |
| Deli | 100 | 45.00 | 4,500.00 | 12.25 | 1,225.00 | 3,275.00 |
| Duli | 15 | 550.00 | 8,250.00 | 242.00 | 3,630.00 | 4,620.00 |
| Chaluni | 180 | 45.00 | 8,100.00 | 10.25 | 1,845.00 | 6,255.00 |
| Gross Total of all items in a Month | 40,950.00 | 10,246.75 | 30,703.00 |

**Source: Self Calculated on the basis of Field Survey data**

The figures displayed in the above table are also self explanatory and shows that on an average a SHG group in this economic activity has a surplus of Rs 30,703 on an average. Deviations from the average earnings are about Rs 2000 plus or minus. Going by the average, if there are 10 members in a SHG, the average earnings per month per member is more than Rs. 3000 per month or more than Rs. 100 per day. If there are eight members, the average earnings per month per
member is more than Rs. 3800 per month or more than Rs. 127 per day. This self employment economic activity therefore is more attractive than any wage employment programme in the rural areas.

However, a study remains incomplete when the brighter side of the facts are only disclosed. The darker side needs to be disclosed too. Hence the next section deals with the problems the members of the SHGs face as micro-entrepreneurs in making bamboo handicrafts.

VI. Problems faced by SHG members in making bamboo handicrafts

Several problems are associated with the SHG women engaged in this economic activity. An attempt is made to draw pen-picture of some of their problems. The problems indicated here have been compiled from face to face discussion with the SHG members and focus group interviews. The problems listed out below are therefore indicative and not being claimed to be comprehensive.

i. **Double burden of work:** The women artisans face the double burden of work more than men. These rural women spend more time than men in reproductive and household work. These women usually have to take up making these handicrafts crafts after attending to their domestic chores. It therefore becomes very tough for them to produce at a bulk, especially to deliver an order or the required quantity of crafts for fairs.

ii. **Sourcing of Materials:** Artisans often purchase the materials from local market or from the nearby bamboo bushes, where often the standard size good quality bamboo may not be available. There is lack of awareness regarding the different species of bamboos, their market price and their utility and often get cheated in sourcing raw materials.

iii. **Cost and price determination:** Determination of actual cost of production and the product price are the most important parts of a craft making enterprise. Most of the SHG members do not have the ability to calculate the product’s cost and determine the prices on a cost plus margin basis. They even lack the ability to determine the relative profitability of various items produced.

iv. **Damage of raw materials and products:** The bamboo strips and finished products are often attacked by fungus or insects and these cannot be stored for long. The SHG entrepreneurs make substantial quantities of different craft items before attending a fair and if the sales are not up to expectation the unsold stock becomes susceptible to irreparable damage.

v. **Finance and Liquidity:** Procurement of raw materials and transport requires immediate cash payment and therefore demands that these women have sufficient liquidity. Problems arise because the monthly profit generated by these women are in many cases not even partially ploughed back into their business, but used for household purposes. Inter-loaning from their groups and even credit from banks are not regular and may not be readily available during urgent purchases. Guzman and Kacperczyk (2019) observed that females are 63% less likely than males to obtain external financing in terms of risk capital, and the most significant part of the gap derives from differences in gender. In these situation, there is no other option than taking recourse to local money-lenders.

vi. **Access to markets and phobia about e-market and e-payment:** The entrepreneurs often depend on the seasonal and government fairs, or sometimes on the middlemen. Lack of
regulated market for SHG products compel the entrepreneurs to sell their items to the middlemen at comparatively lower price. They are reluctant and afraid of relying on agencies and NGOs who approach them for availing e-marketing and e-payment mechanisms. Since these women have a very low level of literacy and financial literacy, they fail to understand how e-commerce systems work even if explained several times.

vii. **Lack of advertisement and publicity**: Though the items produced are unique in variety and craftsmanship, there exists very little effort to advertise these products so as to generate more sales. Publicity and advertisement from DRDC and other government agencies of the craft items with the artisan is made sometimes but is inadequate. Lack of publicity and advertisement of the products affect the spirit of artisans and the sale of products too.

**VII. Conclusion And Recommendations**

The previous sections have dealt with activities and costs related to adding value to bamboo by converting them into handicrafts of different varieties. Profits are generated through these activities and some earnings are made by the SHG members to scratch out a livelihood. However, such efforts are not without problems as discussed in the earlier section.

In this context, the question is whether this economic activity pursued by the SHG members be made more profitable and attractive? The recommendations given below may be helpful in improving the value addition synergies and bring in more profits for these micro-entrepreneurs.

(i) **Cultivating Bamboo on their own**: The SHG members can plant and grow good species’ bamboo bushes on their own household or besides their agricultural land. This will make the main raw material available at much cheaper costs as compared to buying them from outsiders. This will provide better quality and standard sized bamboos. Government agencies like DRDC or Agricultural Universities can help the SHG clusters to grow improved quality bamboo in specified localities.

(ii) **Reduction of Waste**: Wastage of materials can be minimized to utilize the maximum possible materials in making the final products. Wastage can be reduced by diversifying the products’ variety. An extra or excess cut piece of a materials may be useful for another product. Maximum use of materials can be done only by using the extra or imperfect piece of one product to another product. This will obviously reduce the cost of the product and will have direct impact on the product’s cost and price.

(iii) **Training and Skill Development**: Training and skill development programmes can be arranged by DRDC and other Government agencies. Competency Based Curriculum on Bamboo Works is provided the Directorate General of Training, Ministry of Skill Development & Entrepreneurship in Salt Lake, Kolkata, but as reported, none of these SHG members have had the means and opportunity to attend this course. The Government can easily sponsor these women for these courses. Enhancement of skill can definitely help in reducing wastages, cutting costs, diversifying variety and improving quality, thereby generating more sales and profits.
Use of technology in production: Generally, the entrepreneurs do not use any technobased machines for production. The SHG groups should be financed to buy and install instruments like Cross Cutting Machines, Radial Splitting Machines, Automatic Splitting Machines, Manual Slivering machines, Electric Drill Machines, Hydraulic Press Machines, Resign Applicator machines etc. SHG members should be trained in operating and maintaining these machines. Application of modern technology can not only increase the volume of production, but also enhance the quality and finishing of the handicrafts.

Use of E-Marketing platforms: E-marketing mechanism has been playing an important role in domestic as well as in international market. To exhibit the products in global market, e-marketing is the best possible option. High end customers mainly prefer the decorative items over traditional craft items and they may find it convenient to purchase the same through e-marketing. Competitive advantage in price can be achieved with low marketing costs and 24X7 access for the customers. Different government and non-government agencies should come forward to help them in accessing the e-marketing platform and handling of the same.

Use of E-Payment mechanism: E-marketing and e-payment are closely related mechanisms. Domestic and International customers would have more purchasing propensity if payments can be made through mobile banking, internet banking, debit or credit card and UPI. E-payment mechanism can undoubtedly help the entrepreneurs to boost up their sales. However, they need to be trained in ease of handling the e-payment system.

Linking Tourism with Marketing: North Bengal attracts a large number of domestic and international tourists throughout the year. Since tourists are usually fond of purchasing mementoes, DRDCs can connect the entrepreneurs with the Department of Tourism and private tour agencies and build up a system where every tourist can be given a handicraft as gift while departing. The price of the gift can easily be added to the tour package cost as the cost of the handicraft will be a miniscule percentage of the total tour package costs. The role of middlemen can then be minimized and more profit can flow to the SHGs.

These suggestions are indicative and it has to be realized that a whole hearted and integrated effort to improve the productivity and livelihood of the SHG members need to be taken up by the women themselves, the SHG clusters and federations, the Government agencies, NGOs and researchers who can have a continuous insight into the sisytems and problems. Most of the members of the SHGs engaged in making of bamboo products, have no or very marginal agricultural land, and their livelihoods are mainly dependent on these activities. Diversity of products with quality, cost reduction strategies, reduction in the role of middlemen, and efficient market avenues can make this economic activities sustainable and viable.

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