

SOCIO-ECONOMIC CONTRIBUTION OF BAMBOO FOR HOUSEHOLD LIVELIHOOD IN BALAGHAT DISTRICT (M.P)

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Abstract: A survey was conducted in Balaghat District with objective of assessing socioeconomic contribution of bamboo for the household livelihood. Eleven Bamboo ranges were selected availability of bamboo resources and proximity gradient from the market center. A formal survey was carried out for questionnaires total of 441 households selected stratified random analyze variables sampling techniques were employed to find out the relationship between income generated from *Dendrocalamus strictus* and some selected socio-economic factors such as distance from market, family size, education and land size. The results indicated that local people practice diverse livelihood activities mainly crop cultivation, livestock husbandry, bamboo products and off-farm activities for survival.

Index Terms- Socioeconomic, household, livelihood, questionnaires.

I. INTRODUCTION

Bamboo are a valuable gift of nature to man. They have age-old connections with the material needs of the people and are fascinating to the artist, the poet, the craftsman and to the scientist. Aptly called the 'poor man's timber' they have a significant place in rural economy. They are sufficiently cheap and can meet the varied needs of the human population from the cradle to the bier. They can be easily split and made into useful articles with ordinary hand-tools. In fact, there is no limit to the varieties of articles that can be made out of this natural plant resource.

The number of ways bamboos enter into the diverse phases of human life are too well know. They are used for a variety of purposes, such as toothpicks, baskets, mats, flutes, agricultural implements, spears, bows and arrows, walking sticks, bridges and houses and are good for afforestation, soil conservation and social forestry. Being closely interwoven with the life of the people in several ways, bamboo occupies a place of pride in our country.

Madhya Pradesh (MP) is the largest state of the country with 4,43,445 sq km geographical area and 1,54,506 sq km forest area. Forestry plays a very important role in economy of the state. Bamboo, which is an important forest produce, has high significance in socio economic life of rural MP. It is said to be poor man's timber and put to multifarious uses for various livelihood options. India holds the second place in the world with 125 species of bamboo belonging to 23 genera, next only to China (Tewari, 1994). *Dendrocalamus strictus* is the most important species in India. Bamboo area of the country is estimated as 8.96 million hectare and the total growing stock (green weight) is 80.428 million tons. Annual production of bamboo is estimated as 32,30,000 tons in the country. North Eastern states have 28% of the area and 66% of the growing stock. Madhya Pradesh has 20.3% of the area and 12% of the growing stock (Rai S N, 1998).

In Madhya Pradesh there are two main consumers of bamboo, namely, Basod and Nistari tribes. Basods are the people belonging to community of bamboo craftsmen who are traditionally dependent on bamboo for their livelihood. The Nistaris use bamboo for house repair and crop harvesting and other domestic uses. The Government of Madhya Pradesh has a policy to meet their demand for bamboo.

The present study has been undertaken in the state of Madhya Pradesh in selected districts. Assessment of bamboo resource, demand-supply position of bamboo, income supplement to the families from bamboo, and projection of the result for the whole state have been done.

II. RESEARCH METHODOLOGY

2.1 Study area-

Madhya Pradesh is centrally located and 37.84% of the total area of the state is notified as forest (Annon, 1995).

K.P.Sahoo *et al*, 2008 have reported the study sites comprise of various forest communities spread all over Balaghat district. The district is located in the south eastern Madhya-pradesh between Latitude-21° 19' to 22° 24' North and Longitude 79°-31' to 81°3' East in the eastern part of Satpura plateau.

- Total geographical area of the district is 9200 sq.kms, out of which 4051.8 sq.kms areas comes under forest cover amounting of 46% of the total area.
- The district presently has two territorial division viz. North and South Forest division.
- Among the tribes the Baigas are the most backward inhabitants of the area, they possess good knowledge of the forest routes and bamboo plants in spite of the development work done in the area by the Govt. In the past twenty five years.
- **Soil:** The district has alluvial soil in the lowland and black to brown clay loam soil in the plateau and tablelands. The most fertile soil is found in the plain areas of Warseoni & Balaghat tehsil.
- **Climates:** Summer hot season- March to June, Rainy Season- June to Sept. Post Monsoon Traditional Climate from Sept. To Oct. Mild cold winter season- Nov. February.
- Overall climate of the district is moderate with a minimum temp. Of 4.4°C in January and Maximum temp. 44 °C in May.
- **Rainfall:** Rainfall pattern is of monsoonal type, Rain in the district start in mid june & last upto the earlier part of Oct. Baihar tehsil has the maximum rainfall, followed by Balaghat & Warseoni (K.P.Sahoo *et al*, 2008).

The research was conducted in the Balaghat committee (BDC) of Balaghat District of central region of India (MP).

2.2 Method-

The sample used in this study came from two forest division: North and South Forest Division that were purposefully selected to represent the geographical and socioeconomic diversity in the country. Eleven Bamboo forest range were selected. The area under bamboo in the district was obtained from the records of the Forest Department (Anonymous 2015), while number of artisans' villages in the state was gathered from the records of M.P. Forest Department, (Balaghat Forest Circle-Nistar Book 2015), district administrations and ground verification. 11 Bamboo Forest range, viz. North Lamta, SouthLamta, Balaghat, Wara Seoni, Katangi, Khairlanji, Lalbarra, Hatta, Kirnapur, WestLanji,East Lanji were identified and selected with the help of experts and the Government of Balaghat. A total of 36 artisans' villages from these districts, comprising 1043 bamboo artisan families were surveyed. Documentation of the community indigenous knowledge system (IKS) of bamboo artefacts was done through social surveys. A questionnaire was designed to gather data. The questionnaire was administered through formal and informal interviews with the artisans to obtain detailed information with reference to species used, areas and mode of collection, time spent for collection of the raw material, and general condition (poor, good, better) of the resource at site (Sarkar & Sundriyal 2002, Sundriyal et al. 2002). An inventory of different bamboo products, their local names, and their uses was also noted.

The quantity of raw material used for making different products, designs used, time taken for making these items, and mode of selling of the product was also investigated (Sundriyal et al. 2002). Marketing of the items was assessed through visiting villages, festivals and small towns. A cost-benefit analysis was done by assessing all cost involved in raw material purchase; labour used in collection of raw material, processing and product making; and net sale prices for different items. The socio-economic status of the artisans was assessed by gathering information on the net income from selling bamboo products, monthly expenditure of an average household, and net savings if any. Discussions were also held with the artisans to get their perception and views about possible ways and means for bamboo resource management and conservation, the demand and supply status of the resource, and the community need for the products (Singh et al. 2003, Upreti and Sundriyal 2001). To assess trade related problems being faced by the communities and future strategies for bamboo sector development, the artisans were asked to provide three most pressing issues/ priorities that they feel important for improving their socio-economic status based on their experience and perception with the bamboo trade (Sarkar and Sundriyal 2002).

III. RESULT-

3.1 Bamboo species-

In Balaghat District, Three bamboo species belonging to three genera were recorded that grow naturally: *Dendrocalamus strictus*, *Bambusa bambos* and *Cephalostachym pergraile* (M.P. State Bamboo Mission). Bamboo species grow at mid and high hill areas of the District. The communities that make articles from bamboo and katanga are called Lathi and Katang respectively. East Lanji Forest range has the maximum area under bamboo production of the total Bamboo Forest ranges in Balaghat. Hatta forest range has Katanga species only. All other Forest range is comprised of both Lathi bamboo and Katanga bamboo.



Figure 1. Dendrocalamus strictus (Lathi Bans) Balaghat District(M.P.)

Table 1. Major Lathi bamboo and Katanga species growing naturally in Balaghat District (M P)

Species	Local name	Distribution (meters above sea level)	Habitat	Uses
Bamboo:				
<i>Dendrocalamus strictus</i> (Roxb.)	Lathi bans	325-1000	Low-hill moist forests (Siwalik)- Lansdowne forest Division	For making bamboo articles and extensively raw material is used in paper industry
<i>Bambusa bambos</i> (L.) Voss or <i>Bambusa arundinacea</i>	Katang bans	500-1000	Sub-Himalayan tracts	For household articles
<i>Cephalostachym pergraile</i>	Balan bans	300-1200	Low-hilly and well drained loams	For household articles



Figure 2.Bambusa bambos (Katang Bans) Balaghat District(M.P.)

3.2 Bamboo artisan villages and bamboo products-

The district has as many as 36 bamboo artisan villages and their distribution varies in different districts (Figure 3) .Waraseoni Bamboo forest range has the highest number of bamboo-artisan villages. An analysis of 36 villages spreading in eleven forest range of the District (viz, North Lamta, South Lamta, Balaghat, Wara Seoni, Katangi, Khairlanji, Lalbarra, Hatta, Kirnapur, WestLanji, East Lanji) revealed that the artisans make many bamboo items, which comprised a variety of baskets, mats, toys and instruments, and various other utility items, which exhibits a diverse knowledge base. However, 25-30 items were recorded to be sold in the villages, mainly as diverse agricultural utility items (Table 2). Most of the products were recorded sold for Rs. 10-150, which is a low and affordable price for the local communities. Only grain storage baskets are priced over Rs.160 though their use has reduced to a large extent in recent times. It was estimated that the total selling price of items was 10-30% higher in the towns than in the villages. The artisans prefer to sell their items in the villages to avoid costs of transportation; time involved in selling, and labours from village to towns. It was also recorded that selling of the products in villages involved returns in cash and/or kind. In most cases manufacturing of the items was demand driven to meet the need of the villagers.

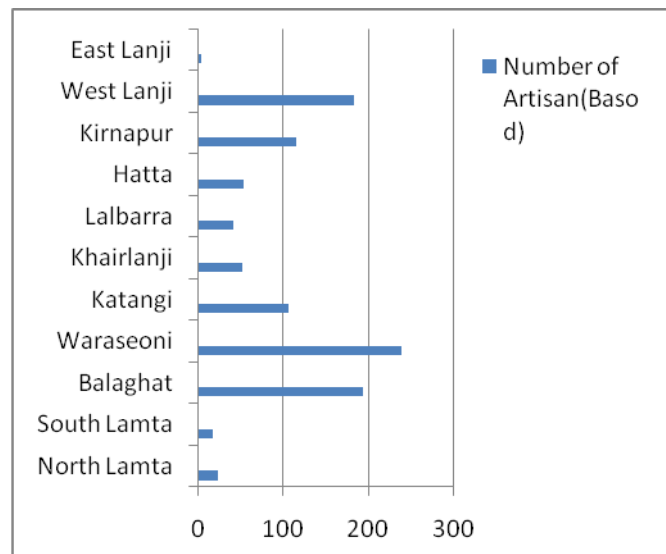


Figure 3. Distribution of artisan (Basod) villages per forest Range in Balaghat District, (M.P.)

Table 2. Important traditional bamboo products commonly used in Balaghat District (M.P.)

Items	Local name	Bamboo spp. Used	Locally use
Big basket	Tokri (big)	Dendrocalamus strictus	Fodder collection carrying manure
Winnowing tray	Supa	Dendrocalamus strictus	Winnowing food grains
Small basket	Dalia (small)	Dendrocalamus strictus	Children use for carrying Chirpine leaves, wood and manure
Big basket with handle	Kandi (big)	Dendrocalamus strictus	For storage of vegetables
Small basket with handle	Kandi (small)	Dendrocalamus strictus	Used in marriage ceremony
Round basket	Chapri	Dendrocalamus strictus	For keeping chapatti and selling butter and cheese
Small round basket	Chapri (small)	Dendrocalamus strictus	For sowing harela (Hordeum sp.)
Food grain storage basket	Topra	Dendrocalamus strictus	For storage of food grains
Round sleeping basket	Choura (Jhuger)	Dendrocalamus strictus	For sleeping of newly born baby
Carrying basket	Doka	Dendrocalamus strictus	For carrying grass and fodder
Carrying basket	Solta	Dendrocalamus strictus	For carrying grass and fodder
Mat	Moste or Bishal	Dendrocalamus strictus	For drying and cleaning of rice
Hat	Topi (cap)	Dendrocalamus strictus	Cap
Mouth trap	Mav	Bambusa bambos and Dendrocalamus strictus	Mouth traps for ploughing animals(ox)
Mat	Chatai or Tatta	Dendrocalamus strictus	Places for protection,partition and hiding
Walking stick	Gedi	Dendrocalamus strictus	Made for walking on uneven

			land in rainy season
Circular weave	Parra	Dendrocalamus strictus	Used to dry things on sun and used for keeping things
Stool	Pata	Bambusa bambos and Dendrocalamus strictus	For sitting

3.3 Socio economic of bamboo artisans-

The socio-economic status of East Lanji (bamboo-artisans) and South Lamta in the district was very poor, which mainly comprised highly marginalized scheduled caste families. They lacked land and other productive resources for their livelihood and therefore have been dependent on bamboo trade from centuries. These communities sold bamboo articles to nearby villages to earn their livelihoods. A large number of such traders lived in remote villages; therefore most of them are not in a position to take the actual benefit of the government-run schemes. It was interesting to note that among all the studied villages the statuses of the bamboo-artisans (98%) were recorded as below poverty line (BPL) scheduled caste (SC) families. In case of Katanga, however, 25% of families were BPL (SC) while of the remaining only 10% of families were above the poverty line (APL) and the remaining 5% are below poverty line but not members of scheduled castes. All articles made by the artisans were used only for domestic purpose. The articles were sold directly to rural folk for cash or barter. Sometimes the items were sold in towns and festivals.

IV. DISCUSSION-

For this purpose, there is a need to investigate bamboo-artisans' concerns that affect the resource status and trade. In this study we analyzed resource use patterns and business related issues being faced by bamboo-artisans in Balaghat district in Central India. Balaghat district has significant areas under bamboo, and there are traditions of using this resource for various household utility items. The state government is strengthening infrastructure to widen this sector as an important vehicle for rural development. The use of bamboo is intense and comparable with the range of bamboo products made in various Central India (Singh et al. 2003, Sundriyal et al. 2002). However, in recent times only a few items were commonly sold in villages. Artisans use thick bamboo from community lands, while lathi-bamboo was collected from forest areas. The District of bamboo in both these areas has been limiting, therefore the cost of raw material has increased substantially over the years. All bamboo-artisan households were found to be below the poverty level, while two-third of katanga-bamboo artisans were below the poverty level. Those families in poverty lack land and other productive resources to support their livelihood thus are dependent on subsistence bamboo trades (Balaghat Forest Circle-Nistar book 2015). As the selling of the products in town markets involved intensive labour, cost of transportation, and time, artisans prefer to sell their products near raw material sources in rural areas to minimize transport costs and time. The cost-benefit analysis of the trade revealed that it was a low profit enterprise, which prompted many families to shift to seasonal labour. High labour requirement and the dwindling raw material status indicate high trade vulnerability (Ram & Tandon 1997, Upreti & Sundriyal 2001).

This study revealed a large number of challenges to develop the bamboo sector in the Forest Range of Balaghat. Resource ownership of artisans and management of existing bamboo stalks are key areas to begin with. This is unlike Central India where farmers manage their own bamboo gardens, thus maintaining enough resource under their control (Sarkar & Sundriyal 2002). In Balaghat District They lack bamboo plantation and propagation skills. The village communities do not promote bamboo plantation due to beliefs that traditionally bamboo is associated with the last rites of human beings. At low hill areas of the state, bamboo areas are still under the control of Forest Department. Such bamboo was auctioned in depots, thus available to artisans. There is a challenge to conserve wild and farm grown bamboo stalks. Most products carry domestic use value only, which has a low profit earning opportunity. If this enterprise is to grow and thrive, there is a need to adopt a holistic approach so as to properly institutionalize resource conservation, supplementing artisans' needs, product development and marketing.

Table.3. Different photos of Bamboo products and their marketing-





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REFERENCES-

- [1] Anonymous.1995. Four decades of forestry. M.P. Forest Department. Chief Conservator of Forests Working Plan, Satpura Bhawan, Bhopal.
- [2] Anonymous, 2015. <http://www.mp.gov.in/en/web/guest/forest>.
- [3] Balaghat Forest Circle-Nistar Book, 2015. Forest Department. Madhya Pradesh Government pp.84-85.
- [4] M.P. State Bamboo Mission. 2013. MP State Bamboo and Bamboo Crafts Development Board.
- [5] Ram, H.Y.M., and Tandon R.,1997. Bamboo and rattans: From riches to rags. Proceedings of Indian National Science Academy.63:245-267.
- [6] Sahu K.P., Shrivastava. and Masih S.K., 2008. Medicinal plants in Balaghat District of Madhya Pradesh. Department of Botany and Environment Sciences. State Forest Research Institute, Polipathar. Jabalpur Vaniki sandesh. 32(4):14-22.
- [7] Sarkar J. and Sundriyal R.C., 2002. Indigenous use, management and conservation of bamboo resource in Arunachal Pradesh. north east India. Bamboo Journal.19:24-39.
- [8] Singh H.B., Kumar B., and Singh R.S., 2003. Bamboo resources of Manipur: An overview for management and conservation. Journal of Bamboo and Rattan.2(1):43-55.
- [9] Sundriyal R.C., Upreti T.C., and Varuni R., 2002. Bamboo and cane resource utilization and conservation in the Apatani plateau, Arunachal Pradesh.India: Implications for management. Journal of Bamboo and Rattan. 1(3):205- 246.
- [10] Upreti T.C., and Sundriyal R.C., 2001. Bamboo and cane resources of Arunachal Pradesh: Utilization pattern and implications for management. Bamboo Science and Culture., 15(1):20-34.