

Rattan based enterprises in North-eastern region of Bangladesh: Status and economic profitability

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Abstract: An exploratory survey was conducted to assess the regional trade pattern, economic profitability and marketing system of rattan-based enterprises in North-eastern region of Bangladesh. A multistage random sampling was adopted to carry out the study. Based on the total investment, the enterprises were divided into large, medium and small. Most of the entrepreneurs (36.67%) are in the age class (30-40) years and (40-50) years respectively. In small category, the lowest entrepreneurs (3.33%) are found graduate which is about 13.33 per cent in large enterprises. Most of the enterprises are in the small category (46.67%) and 60 per cent labours are skilled, whereas only 40 per cent are unskilled. About 14 articles of 23 different sizes were identified made from cane, which are sofa (45 × 45 cm, 50 × 50 cm and 55 × 55 cm), dining set (4 chairs, 1 table, and 6 chairs and 1 table), bed (1 × 2 m, 1.3 × 2.3 m and 1.5 × 2.3 m), chair (45 × 45 cm and 50 × 50 cm), rocking chair (large, medium and small size), doina (hanging and running), partition, flower vessel holder, mirror holder, handicrafts, mora, table lamp, walking stick, and tea table. In the large category, chair (45 × 45 cm) was produced highest in number while in medium and small categories, chair (50 × 50 cm) and handicrafts were produced highest in number. In all the three categories of enterprises, bed (1.5 × 2.3 m) was produced in lowest number. The total net benefit (Tk 185659) and benefit cost ratio (1:1.8) was the highest for large rattan enterprises. Among the three categories, the large enterprises are more profitable than the others.

Keywords: Benefit-cost ratio, net benefit, Bangladesh, cane enterprise.

INTRODUCTION

The international trade in rattan or cane dates from the mid 19th century (Corner, 1996) and this trade is currently worth some US\$ 6.5 billion a year. A conservative estimate of the domestic markets of Southeast Asia by Manokaran (1990) suggested a net worth of US\$ 2.5 billion. This later market includes the value of goods in urban markets and rural trade, as well as the value of the rural usage of the materials and

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products. Dransfield and Manokaran (1993) estimate that 0.7 billion of the world's population use, or are involved in the trade of rattan and rattan products.

Rattan is one of the materials of cottage industries and this resource adds considerable amount of revenue to the rural households of Bangladesh (Mohiuddin *et al.*, 1986). It is one of the most important natural resources of Bangladesh forests and homesteads (Ara, 1977). Eleven species of rattan are reported under 2 genera, *Calamus* and *Daemonorops* and all the species are found growing naturally in the forests (FAO, 1993). Generally, in the forests of Bangladesh, rattans occur in the north-eastern hill forests of Sylhet, Chittagong, Cox's Bazar, and Chittagong Hill Tracts. In Bangladesh, rattan collection from the government forests is done by the local people on payment of royalties to the Forest Department (Patric *et al.*, 1994). In the hill forest of north-eastern region of Bangladesh, rattans are found to grow in well-drained, moist, sandy-loam soils on the slopes. The most important and much esteemed use of rattan is for furniture and most suitable species is *D. jenkinsianus* (Gola or Golak bet). Other large diameter rattan species used for furniture, particularly as frames, include *C. latifolius* (Korak bet), *C. viminalis* (Bara bet) and *C. longisetus* (Udom bet). For handicrafts and for tying materials in house construction and in furniture making *C. guruba* (Jali bet or Sundi bet) and *C. tenuis* (Bet, Jayo) are commonly used (Banik, 1998; Alamgir *et al.*, 2005).

Rattans are used either in whole or round forms, especially for furniture frames, or split, peeled or cored for matting and basketry. Other plant parts of some species of rattans are utilized and contribute to the indigenous survival strategies of many forest based communities (FAO, 2002). Rattan products chiefly serve the rural economy, the bulk of the national population. Rattans are important since they provide basic and useful materials to the rural housing, particularly the poor sections of the population. Rattans provide expensive furniture, utensils and agricultural implements and are important in the handicrafts and small cottage industry sector. The demand for well-processed, good quality cane is going up in the world market and is presumed that the demand is three times the supply (Alamgir *et al.*, 2005, 2006). Indonesia exports 90 per cent of the world's requirement of rattans. In the total world export of primary forest products, rattan occupies second position next to timber (Nuruzzaman, 2001). The climatic condition of Bangladesh is very suitable for growing rattans (BBS, 2002) and they grow well in some cases without any special attention in their propagation, harvesting, extraction, processing and manufacture. Cane furniture is very popular because of its cheapness and the natural looks (Nuruzzaman, 2001). But this natural resource is getting depleted at an alarming rate (Banik, 1998). Alam (1990) reports that most of the rattan supplies to the industries are smuggled from Assam (India) and Myanmar. Annual average harvest from the forest during 1981-1987 was 3,525,500 feet (1074572.4 m). At present, most of the rattans used by the industries are imported. Ara (1997a) reports that rattan based industries are being closed due to shortage of raw material. Most of the workers in these industries are women and they work to meet their basic needs. Hence, closing down of these industries will directly affect the socioeconomic condition of the people.

There are several rattan based furniture enterprises in Dhaka, Chittagong, Sylhet, Comilla, Khulna and some other towns of Bangladesh (BBS, 2002). Among the Non-wood forest products (NTFPs) the use of bamboo and cane are well known in the rural areas. Moreover, much of the canes used are harvested by the poor, especially by women and children, and about 1,38,556 people in the country are estimated to be employed in the rattan industry (Alamgir *et al.*, 2005). However, despite the widespread use of canes, hardly any research has been undertaken aimed at improving the quality of local rattans (Nuruzzaman, 2001). Their economic characteristics particularly regional trade patterns and financial prospects remain largely unexplored. Our study is an initial attempt to realize the economic profitability of cane-trades and their market condition. The study will serve as a baseline information source. The study will also help the people to invest in the cane enterprises and to the Government and Non-government organization to realize the necessity of providing expertise to the cane enterprises of the country.

MATERIALS AND METHODS

The study was conducted in Sylhet Sadar, the most populated *upazila* (sub-district; administrative entity) of Sylhet Division located in northern part of the country. The *upazila* is famous for some specific NTFPs in the country for decades. The area has experienced a rapid development in the last few years and thousands of people from countryside have been gathered in the area for better livelihood provisions. Administratively the *upazila* occupies an area of 517.43 km², including 19.22 km² of government forest area (BBS, 1996). Geographically, the *upazila* is located between 24°43' and 25°05' north latitudes and 91°40' and 92°01' east longitudes.

Fieldwork was conducted during January-March, 2009. A multistage random sampling was adopted to carry out the study. The entrepreneurs were identified in the market through preliminary field survey. An entrepreneur is the person, who owned a temporary/permanent cane-based enterprise, resells cane as manufactured secondary products. Thirty entrepreneurs, corresponding to about 25 per cent of local population were interviewed, maintaining an informal schedule. Three categories of enterprises were made based on the preliminary survey, which are large (income above Tk. 100,000 yr⁻¹), medium (income between Tk. 100,000-60,000 yr⁻¹) and small (income below Tk. 60,000 yr⁻¹) (Tk. or Taka- Bangladeshi currency) (1 US\$ = 70 Tk approximately).

The production number, production cost and selling price of the articles were determined according to the view of the owner of the enterprise. For data collection a semi-structured questionnaire was used and the details (*i.e.*, demographic and socioeconomic background) of the entrepreneurs, supply and sources of raw materials, manufactured products, marketing pattern, status of workers (*i.e.*, the person who worked in the local cane shop either on permanent or temporary basis), available government and NGO supports, *etc.* were recorded. On each topic the respondents

were free to express their views. The production cost of each article was calculated as, Production cost of each article = raw material cost + transportation cost + processing cost (labour wage + supplementary materials). Selling price is the price at which the articles are sold. Average profit is the difference between selling price and production cost of each article. The total article number was estimated according to the owner's view. The total cost of each category was calculated by multiplying the production cost and article number and then added to get the total. The total income and profit were also calculated in the same manner.

RESULTS AND DISCUSSION

General background of entrepreneur, labour and categories of rattan enterprises

In the study, a total of 30 enterprises were surveyed and found that 60 labourers worked in these enterprises. The age categories of the entrepreneurs range from 30 to above 50. Most of the entrepreneurs (36.67%) are in the age class 30-40 years and 40-50 years. In the large enterprises, the entrepreneurs in 30-40 years age category are completely absent. This is probably due to the fact that initially the entrepreneurs started with a small unit and gradually increased his investment and grew into large enterprises. In the small enterprises about 3.33 per cent are graduates, while in large enterprises this figure is 13.33 per cent. The highest percentage of entrepreneurs (53.33%) is having secondary level of education. Primary level educated entrepreneurs are completely absent in the large enterprises (Table 1). It is revealed that educational status is an important criterion for medium and large enterprises. Some small entrepreneurs, though they have the capacity to invest more, do not do so due to the lack of education (entrepreneur's view). The study conducted by Chowdhury and Nahar (1993) found that about 73 per cent of the informants engaged in the bamboo and cane works in Comilla region of Bangladesh were illiterate. Alamgir *et al.* (2006) found that most of the entrepreneurs in the cane industry are secondary level educated. According to FAO (1993) the educational level of persons employed in informal wood working shops is usually low. Though these findings were true for workers, the entrepreneurs of the cane industry are well educated. About 43.33 per cent of the entrepreneurs are engaged in this profession for 6-10 years. Most of the labourers are also engaged in this profession for 6-10 years (Table 2).

Table 1. Age class and educational status of cane based entrepreneurs

Category	Age class (year)			Total	Education status		
	30-40	40-50	>50		Primary	Secondary	Graduate
Small	9 (30)	3 (10)	2 (6.67)	14 (46.67)	8 (26.67)	6 (20)	-
Medium	2 (6.67)	4 (13.33)	3 (10)	9 (30)	1 (3.33)	7 (23.33)	1 (3.33)
Large	-	4 (13.33)	3 (10)	7 (23.33)	-	3 (10)	4 (13.33)
Total	11 (36.67)	11 (36.67)	8 (26.67)	30 (100)	9 (30)	16 (53.33)	5 (16.67)

Among the categorized enterprises (*i.e.*, small, medium and large), approximately 46.67 per cent constitutes the small category. The investment of both fixed and running was found highest in large category which are Tk 1,10,390 and Tk 10,10,000 respectively and the lowest among small category (40250 and 132000 Tk respectively). The study revealed that about 60 per cent labourers are skilled, and among the skilled labourers, 25 per cent worked in large enterprises, followed by medium (18.33%) and small enterprises (16.67%). Among the unskilled labourers, 9 numbers (15%) worked in the small enterprises followed by large and medium enterprises respectively. Out of 60 labourers 23 (38.33%) worked in the large enterprises followed by 19 in small, (31.67%) and 18 in medium enterprises (30%) (Table 3). Usually, both skilled and unskilled labourers get more wages in large enterprises when compared to medium and small enterprises.

Economic profitability of the rattan enterprises

Cost and profit from each article

About 23 different types of articles were produced by the enterprises. Table 4 shows the articles produced, production cost, selling price and average profit of small, medium and large enterprises. In the large enterprises, chairs (45 × 45 cm) were the highest produced item (120 Nos). But in medium and small categories, both chairs (50 × 50 cm) and handicrafts were the highest in number. The production cost and selling price per article were highest for the dining set (6 chairs and 1 table) in all the categories of enterprises which were 8549, 9350; 8743, 9750 and 8870, 9890 Tk respectively for small, medium and large enterprises. The lowest production cost and selling price of

Table 2. Number of years in this profession of the entrepreneur and labourers of cane enterprises

Enterprise category	Number of years in this profession					
	(1-5) years		(6-10) years		>10 years	
	Entrepreneur	Labour	Entrepreneur	Labour	Entrepreneur	Labour
Small	6 (20)	14 (23.33)	5 (16.67)	4 (6.67)	3 (10)	1 (1.67)
Medium	2 (6.67)	10 (16.67)	6 (20)	7 (11.67)	1 (3.33)	1 (1.67)
Large	1 (3.33)	12 (20)	2 (6.67)	5 (8.33)	4 (13.33)	6 (10)
Total	9 (30)	36 (60)	13 (43.33)	16 (26.67)	8 (26.67)	8 (13.33)

Table 3. Category and labourers of cane enterprises

Enterprise category	Enterprise No.	Investment (Tk)		Total	Labourer		Total
		Fixed	Running		Skilled	Unskilled	
Small	14 (46.67)	40250	132000	172250	10 (16.67)	9 (15)	19 (31.67)
Medium	9 (30)	80319	480000	560319	11 (18.33)	7 (11.67)	18 (30)
Large	7 (23.33)	110390	1010000	1120390	15 (25)	8 (13.33)	23 (38.33)
Total	30 (100)	230959	1622000	1852959	36 (60)	24 (40)	60 (100)

walking stick was 100, 150; 80, 190 and 90, 210 Tk respectively for small, medium and large enterprises. The highest average profit per article was 1104 Tk for sofa (55 × 55 cm) in large category enterprises and the lowest average profit was (50 Tk) for *dolna* (hanging), tea table and walking stick in small enterprises (Table 4). In the large and medium enterprises, the production cost and selling price per article were low, but the average profit per article was high in large category, as their production cost was comparatively low.

Annual cost, income, net profit and benefit cost ratio of rattan enterprises

The total annual cost, total income and total net benefit were the highest (Tk 923441, Tk 1109100, and Tk 185659) in large rattan enterprises followed by medium and small enterprises (Fig. 1). Benefit cost ratio was the highest (1.18) for large enterprises followed by medium (1.14) and small (1.12) enterprises (Fig. 2). Similar trend also observed by Alamgir *et al.* (2006) in rattan based furniture enterprises in Chittagong City Corporation Area, Bangladesh.

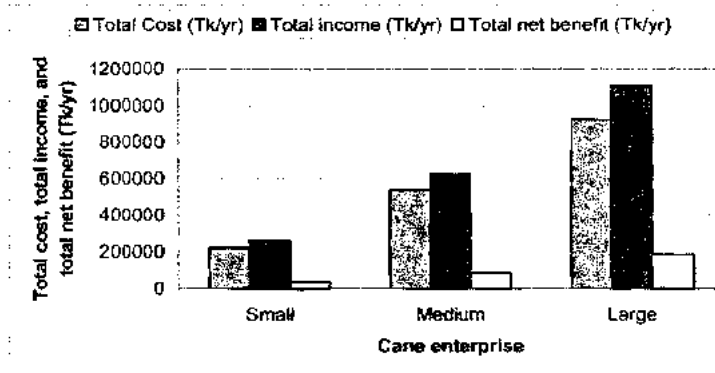


Figure 1. Total cost, total income and total net benefit (Tk/yr) of cane enterprises of north-eastern region of Bangladesh.

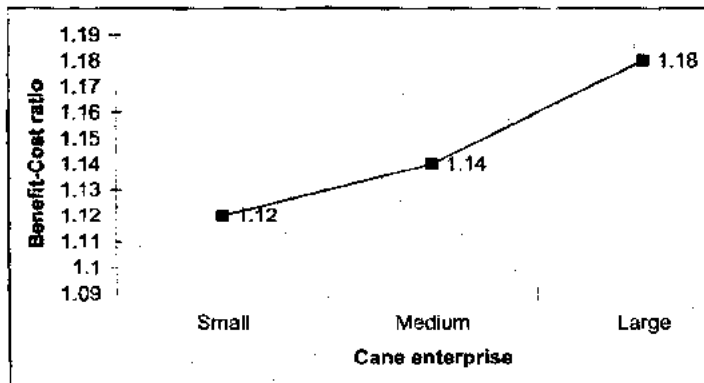


Figure 2. Benefit-cost ratio of cane enterprises of north-eastern region of Bangladesh.

Table 4. Articles produced from canes annually with their production cost, selling price and average profit

Article	Enterprises category											
	Small				Medium				Large			
	Produced article	Production cost/article (Tk)	Selling price./article (Tk)	Average profit/article (Tk)	Produced article/a (Tk)	Production cost /article (Tk)	Selling Price/article (Tk)	Average Profit/article (Tk)	Produced article/a (Tk)	Production cost/article (Tk)	Selling Price/article (Tk)	Average Profit/article (Tk)
Sofa (45 cm × 45 cm)	4	6190	6740	550	6	6290	7110	820	12	6010	7050	1040
Sofa (50 cm × 50 cm)	4	7019	7619	600	12	7580	8290	710	19	7249	8310	1061
Sofa (55cm × 55 cm)	3	7959	8690	731	10	8379	9110	731	10	8446	9550	1104
Dinning (4 chairs, 1 table)	1	6110	6610	500	3	6340	7110	770	8	6220	7310	1090
Dinning (6 chairs, 1 table)	1	8549	9350	801	2	8743	9750	1007	6	8870	9890	1020
Bed (1 m × 2 m)	1	3110	3890	780	2	3310	4101	791	12	3520	4490	970
Bed (1.3 m × 2.3 m)	-	-	-	-	2	4290	5120	830	7	4330	5200	870
Bed (1.5 m × 2.3 m)	-	-	-	-	1	5500	6290	790	6	5490	6190	700
Chair (45cm × 45cm)	30	900	1050	150	60	850	990	140	120	890	980	90
Chair (50 cm × 50 cm)	10	1150	1310	160	70	1258	1390	132	80	1330	1500	170
Rocking chair (large)	11	1290	1580	290	8	1310	1560	250	19	1200	1550	350
Rocking chair (medium)	9	1150	1300	150	10	1220	1410	190	10	1110	1400	290
Rocking chair (small)	8	1040	1160	120	9	1080	1190	110	12	1030	1220	190
Dolna (running)	12	550	620	70	30	600	710	110	50	710	820	110
Dolna (hanging)	16	460	510	50	21	560	620	60	35	620	730	110
Partition/False wall	5	550	690	140	10	620	800	180	20	700	910	210
Flower vessel holder	25	410	520	110	29	420	590	170	50	400	620	220
Mirror holder	33	120	190	70	43	150	250	100	62	140	300	160
Handicrafts	42	120	200	80	60	150	210	60	80	150	250	100
Tea table	15	650	700	50	22	700	860	160	35	690	940	250
Table lamp	25	250	356	106	30	300	410	110	42	310	490	180
Walking stick	15	100	150	50	25	80	190	110	35	90	210	120
Mora	30	110	190	80	38	160	310	150	60	150	250	100
Total	-	47787	53425	5638	-	59890	68371	8481	-	59655	70160	10505

Considering net benefit and benefit cost ratio, large and medium rattan enterprises are more profitable than small enterprises at Sylhet city. In Bangladesh, the per capita income is only Tk 41930 (BBS, 2005) but the net profit for medium and large entrepreneurs are much higher. The findings of Burkill (1935), Corner (1996), Dransfield (1992) and Sunderland (1998) highlight that canes are used extensively across their range by local communities and play an important role in subsistence strategies for many rural populations.

Problems of the enterprises

In the study area, most of the entrepreneurs and labourers expressed different kind of problems. The main problem is scarcity of good quality cane and unavailability of cane during off-season. During off-season they buy cane from unauthorized sources paying high price (almost two-times more). The small category enterprises are most severely affected. The quality of the local canes (low price) is not good when compared to that of imported canes (high price). The cane enterprises also suffer from want of skilled labourers. This is due to the lack of training center for the artisans. Skilled labourers are very few in number and they demand very high wages also. Most of the entrepreneurs expect some help from the government and non-government organizations (NGO). Alam (1990) reported that most of the rattans supplied to the industries are smuggled from Assam (India) and Myanmar. These canes fetch higher price than the local canes and as a result the enterprises incur more production cost for a particular article.

Collection and marketing of rattan

The entrepreneurs collect canes from three different sources such as local market, harvesting site and from imported sources. The local traders purchase canes from nearby district and store and sell them in the local market. The cost of canes from this source is high and on average one cane costs Tk 90 in the local market. The entrepreneurs also purchase canes directly from the harvesting site. The harvesting site mainly includes the forest area of Sylhet, Moulvibazar and Hobigong. Though these canes are cheaper than those of the local market (on an average a cane costs TK 70), collection and transportation costs are high.

CONCLUSION

According to the Bangladesh Small and Cottage Industries Corporation (BSCIC) there are about 45,000 registered NTFP-based small-scale cottage enterprises distributed over the country which provide employment and income provisions to thousands of millions peoples. In Bangladesh, due to the direct and widespread importance to people's social and economic wellbeing, rattan plays a noteworthy role in improving the livelihood of rural poor people. Rattan based industries are being closed due to lack of raw materials, though the climatic condition of Bangladesh is suitable for

growing rattans. Cane furniture enterprise is most profitable business in Bangladesh and can be used to sustain the national economy. It can be concluded that rattan based enterprises should be medium or large category to get more economic benefit with less investment. The government and non-government organization should take steps to provide raw materials for enterprises from the forests of Bangladesh. Also, the rural people will get employment in planting, managing, harvesting and marketing of rattans and at the same time skilled and unskilled labourers will get employment in the rattan based enterprises.

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