

Changing Consumption and Marketing pattern of Non-timber Forest Products in a Competitive World: case Study from an Urban Area of North-eastern Bangladesh

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Abstract In the last decade non-timber forest products (NTFPs) and their associated goods have received much attention from researchers and development workers for their perceived socio-economic importance and potential, particularly in developing countries. It has been increasingly recognized that promoting the use, production and sustainable harvesting of such kinds of products could also contribute to forest conservation in the long run. However, since the development process has progressed in most regions, alternatives or substitutes of such products have become available on the markets, and it will be difficult for these nature-based products to exist without additional product values. A market survey was conducted in an urban fringe of north-eastern Bangladesh to investigate NTFP-based product diversity, and marketing patterns and challenges. Further information was collected from sellers and consumers to understand their views on probable future strategies to sustain the markets of these products. A total of 38 NTFP and NTFP-based secondary products were recorded from 25 NTFP shops, including 16 permanent, 7 temporary (or semi-permanent) and 2 mobile shops. The greatest demand was observed for bamboo and cane-based products, for which supply suffered due to the scarcity of raw materials. A decreasing trend in the consumption of NTFP-based articles for urban domestic use was also reported from the sellers. To cope with the competitive markets, sellers were found to place more emphasis on creative marketing, durability and appearance of their products. The study concluded that active government support is needed for the sustenance of this industry in a changing global perspective. This could be in the form of technical advancement in the production process, improvement of existing product supply chains and skill

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development of the workers which will not only secure the future of these products but also provide an essential means for the survival of this industry and for thousands of people living from it.

Keywords Market promotion · Consumers' preference · Competition · Substitute goods · Sylhet

Introduction

It is evident that non-timber forest products¹ (NTFPs) play an important and often critical role for the quality of life and even survival of many rural poor in most tropical developing countries (Arnold and Ruiz Pérez 1996; Pimentel et al. 1997). These products help households in achieving self-sufficiency, food security, income generation, accumulation of savings and risk minimization (Arnold and Ruiz Pérez 1996). It has also been increasingly recognized that the collection and use of NTFPs is ecologically less destructive than timber harvesting, and development and promotion of such products could provide a sounder basis for sustainable forest management and community upliftment (Arnold and Ruiz Pérez 2001; Mukul et al. 2010). For a large number of people, NTFPs are still more important resources than timber. According to Wunder (2000), smallholders' living in forest margins in diverse parts of the world earn between 10 and 25% of their household income from NTFPs. Tropical forests of parts of South-east Asia have been reported to provide as much as 50 USD per month per hectare to local people who exploit forest resources, without considering the commercial timber values (Caldecott 1988; Sedjo 2002). Asia is undoubtedly the world's largest producer and consumer of NTFPs (Vantomme et al. 2002). According to de Beer and McDermott (1996), about 27 M people in South-east Asia rely on the use of NTFPs. However, since development has progressed rapidly in that region in recent years, alternatives or substitutes of NTFPs and associated products are becoming more available. In addition, presumably in the near future such natural products will have to compete with available synthetic substitute products that are seemingly more durable and attractive and are less expensive.

Bangladesh, situated in Gangetic alluvial plains and benefiting from a tropical favourable climate, is endowed with a vast variety of flora including many species of NTFPs. For example, there are about 33 species of bamboo (represented by 9 genera and including 18 naturally occurring species) (Banik 1998), 7 species of canes (i.e. rattans), several palms and a number of grasses. In Bangladesh the collection, processing and selling of NTFPs provide major employment opportunities for about 300,000 rural poor (Basit 1995), and contribute approximately Tk1.3 billion² annually to the country's economy (GOB 1993).

¹ Non-timber forest products (NTFPs) are defined in this paper as products mainly of biological origin other than commercial timber which are derived from either natural or managed forests. Examples include bamboo, cane, grasses, and their finished products. The various environmental benefits or services of forests are not considered as NTFPs in this paper.

² As of 2007–08, US\$1 is equivalent to 69 Bangladeshi Taka (Tk.), approximately.

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 millions of people (Banik 1998). Many studies have been conducted in Bangladesh on aspects of NTFPs. However most of the resulting information is scattered, poorly emphasized, and deals mainly with utilization (e.g. Akhter et al. 2008; Alam 1992; Miah and Chowdhury 2003; Mukul et al. 2007), cultivation and management (e.g. Ahmed et al. 2007; Chowdhury et al. 2007; Mukul et al. 2010; Uddin et al. 2006); and socio-economic potential of NTFPs to rural livelihoods (e.g. Ahmed et al. 2007; Alamgir et al. 2006; Khan and Khan 1994; Motaleb and Hossain 2008; Mukul 2009; 2008; Nath et al. 2000; Uddin et al. 2008; Uddin and Mukul 2007).

The present study explores the changing trend of NTFP consumption and marketing in an urban fringe of north-eastern Bangladesh. The study also examines how the sellers coped with the changing situations, what attitudinal changes took place amongst urban NTFP consumers and what is necessary to sustain the NTFP market in a more competitive and globalized world. These are of course major questions that are nowadays influencing the life and survival of thousands of millions of people worldwide engaged in value chains of NTFPs, ranging from harvesting from wild or domesticated sources to marketing of final products, and understanding these issues properly could minimize the risk and vulnerability of these people and help them to cope with the changing situation through adopting new strategies.

The Study Area

The study was conducted in Sylhet Sadar—the most populated *upazilla*³ of Sylhet division located in northern Bangladesh. The *upazilla* has been famous for some specific NTFPs for decades. The main products include cane-bproducts and *sitalpati*. The area has experienced a rapid development in the last few years and thousands of people from the countryside have migrated to the area for better livelihood opportunities. Administratively the *upazilla* occupies an area of 517.43 km², including 19.22 km² of government forest area (BBS 1996). Geographically the *upazilla* is located between 24°43' and 25°05' north latitude and between 91°40' and 92°01' east longitude. On the north the *upazilla* is bounded by the Companiganj and Gowainghat *upazillas*, on the east by the Golapganj and Kanighat *upazillas*, on the south by the Balaganj and Fenchuganj *upazillas*, and on the west by the Bishwanath *upazilla* and the Chhatak *upazilla* of Sunamganj district (Fig. 1).

Research Method

Fieldwork for the study was conducted between late 2007 and late 2008. A semi-structured questionnaire was developed, containing questions on the NTFPs and

³ An *upazilla* is a sub-district, which is an administrative entity.

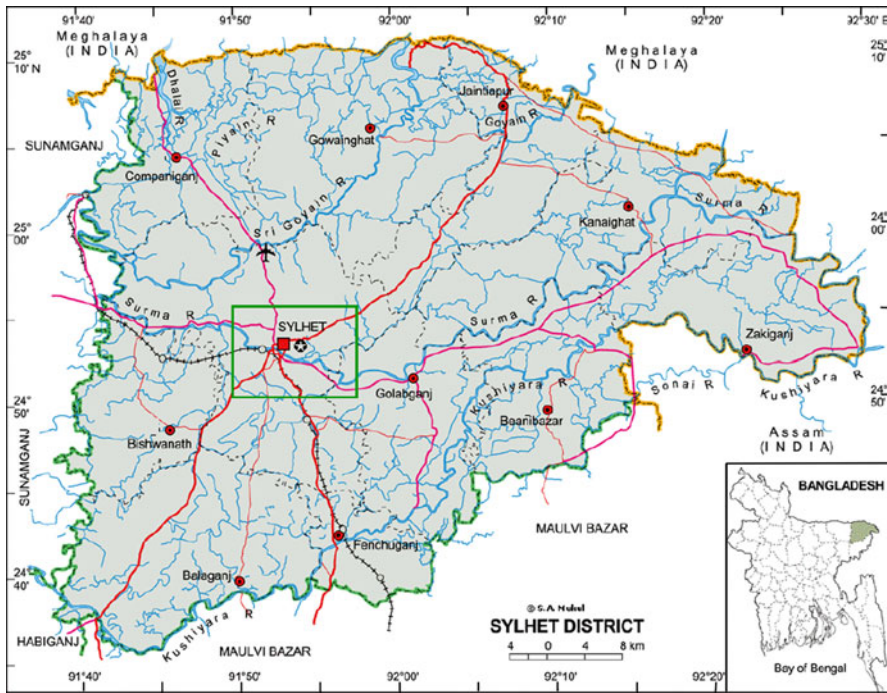


Fig. 1 Map of the study area

finished products available in the shops, their local or trade names, origins, major uses and trends of trade, and of respondents' views on major challenges of NTFPs trading. A total of 25 NTFPs shops were selected randomly and surveyed during market days, a 100% response rate being obtained. Both quantitative and qualitative data were collected through direct field visits and interviewing the respondents (i.e. traders/sellers and consumers/buyers of NTFPs). Estimated annual incomes of the shops were adjusted by deducting from total sales the production costs, wages for labour (including a provision for self labour), rent of the shops (where appropriate), and miscellaneous costs (e.g. electricity, supplies and taxes on sales in the case of permanent shops). To avoid complexity for the respondents (i.e. traders) and to assure quality of the data, only operating costs were taken without keeping any provisions for permanent or fixed costs (e.g. furniture, machineries) and the amounts represents the cumulative value from selling both plant-based and synthetic NTFPs. For collecting consumers, views convenience sampling ($n = 12$) was carried out following an open-ended but short discussion in respective NTFP shops.

Results and Discussion

A total of 25 urban NTFP traders and 12 consumers were surveyed. All the respondents were male (100%). Most of the traders were illiterate (64%), whereas

all the consumers were educated, i.e. had at least primary education. The average age of the traders and consumers was 41 (SD 8.04) and 34 (SD 7.7) years, respectively. About 72% of traders were found to have been in the profession for at least 10 years, whereas the remainder were relatively new in the profession (<3 yrs), and there was no trader between 4–9 years class. Selling of NTFPs was the main occupation for about 64% of traders and the share of NTFP-based income in traders' gross annual income varied between 28 and 100%.

Marketing of NTFPs and Associated Goods

Among the surveyed shops, about 64% were permanent, 28% were temporary (or semi-permanent), and 8% were mobile shops. The permanent shops were usually located in multistoried buildings and found to sell mainly luxury (decorative) goods for household and corporate use. These products were mostly manufactured from canes or rattans (*Calamus* spp. and *Daemonorops jenkinsianus*). The average labour force employed in these shops was 2.4 (SD 1.08) people. The temporary or semi-permanent shops were located along the streets and on roadsides, and were usually located in a semi-permanent or temporary structure though some were stand alone structures. The mobile shops were arranged in a specialized vehicle (tricycle) and were used mainly to sell domestic utensils at reasonable prices from door to door or in public places.

A total of 38 NTFPs and associated goods were recorded from the shops surveyed. Among the products 18 were bamboo-based, 15 were made using cane and 9 were made from other raw products (e.g. *murta* or Palmyra palm leaves). A brief summary of the products, their origin, uses, prices, availability, and trend of demand is presented in [Appendix](#). For better understanding and convenience the NTFPs were divided into three basic categories, viz. domestic utensils (necessary), domestic decorative articles (luxury goods) and others (e.g. construction, corporate). According to this classification 23 articles were domestic (necessary), 11 were luxury goods and the rest were used for construction or other corporate purposes. The house broom (manufactured from *Thysanolaena maxima*) was the most common article (92% of shops). The prices of all the NTFPs and associated products were found to range between Tk 20 to Tk 7500. The contribution of three diverse kinds of NTFPs to traders total NTFP based income is summarized in [Table 1](#). The shares from selling three kinds of NTFPs varied widely between types of shops. Selling of domestic (luxury) NTFPs constituted about 87% of total income in case of permanent shops, but only 21% in the case of temporary shops. In mobile shops sales of domestic (necessary) NTFPs contributed about 87% of total income.

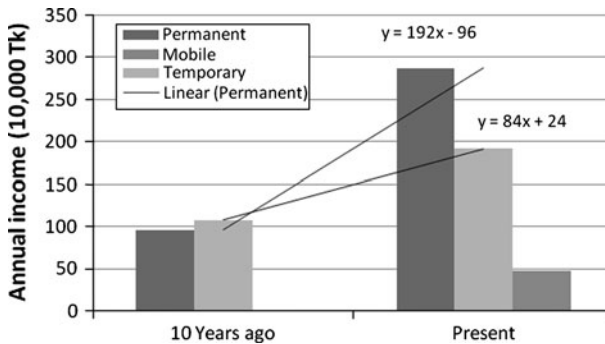
Changing Consumption and Trade Pattern: Strategies and Adaptations

Estimates were collected from the traders about their present income and income 10 years ago (approximately 1997–98) from selling NTFPs and associated products. A considerable increase in sales (from 96,000 Tk/year to 288,000 Tk/year at present) was noted in the case of permanent shops that sold mainly luxury or decorative goods ([Fig. 2](#)). In the case of temporary (or semi-permanent) shops the

Table 1 Net incomes from NTFPs in three categories of shops

Types of shop	Sales of goods (Tk.) ^a			Total (Tk.)
	Domestic (necessary)	Domestic (luxury)	Others	
Permanent	15,375 (±11312.9)	248,375 (±22925.6)	24,250 (±14731.0)	288,000
Temporary	143,215 (±23280.6)	39,715 (±15074.4)	9,070 (±3220.1)	192,000
Mobile	42,000 (±5656.8)	–	6,000 (±2828.4)	48,000

^a Average sale ± SE

**Fig. 2** Comparisons of income from sales of NTFPs

annual income was nearly doubled (108,000 to 192,000 Tk/year). It was not possible to obtain the previous income of mobile shops because they are a relatively new adaptation to cope with the changing NTFP market. The changes in these values can be attributed to changes in consumption (based on quantity sold or demanded), changes in value of these products and changes in local currency price.

From the surveyed shops, alternatives or substitutes for about 12 products (32%) were recorded. Most of the substitute products were made from either plastic or steel, making them more durable and attractive in appearance. Interestingly, most of the traders are now keeping these substitutes in their shops along with NTFPs. Other major adaptations and strategies include: arranging mobile shops in public places or door-to-door sales at more reasonable prices; augmentation of products' aesthetic and use values with more attention and finishing during manufacturing; more publicity for shops; and greater user compatibility of products (Fig. 3).

Major Problems, Challenges and Expectations: Sellers and Consumers View

Table 2 lists the major constraints in development and trading of NTFPs and associated products reported by the traders. Most of the traders (84%) identified competition with substitute goods as the major challenge to the NTFPs market nowadays. Other challenges include scarcity of raw materials (72%), high production and processing costs (72%) and changes in consumers' tastes (64%).



Fig. 3 (clockwise). **a** Diversity of NTFPs in urban shops; **b** coexistence of synthetic and NTFPs (plant-based) in urban shops; **c** temporary NTFPs shop along street in urban Sylhet; **d** mobile NTFPs

It was found that consumers' expectations of various NTFPs and associated goods were mainly concentrated on their visual value (83%), followed by user compatibility (75%) and durability (67%) of the products (Table 3).

Concluding Comments

Overall, although the study illustrates a changing and challenging situation in the NTFPs market, it also identifies some innovative approaches developed by NTFPs traders that help them to minimize the adversity they face in a changing market situation. However, for a successful business all elements of the value chain should work well together. In addition, government and NGOs need to play a key role in strengthening the existing market which will ultimately improve the quality of life of people who are directly or indirectly dependent on this sector. There is a need for government and NGOs to: strengthen the research on NTFPs, their development, domestication and promotion; provide small loans to the small-scale entrepreneurs; help in technical advancement of the processing units, and in storage; play an active

Table 2 Major problems and challenges in NTFPs trading: sellers view

Challenge or issue	Number of sellers and relative frequency (%)
Competition among the sellers	9 (36)
Competition with other substitute goods (mainly made of plastic)	21 (84)
Consumers attitudinal change (in preference)	16 (64)
Increased cost in production and processing	18 (72)
Increased shop rent, and other costs	8 (32)
Lack of institution to encourage or trained local crafters (<i>karigar</i>)	7 (28)
Market insecurity (seasonal demand fluctuation)	11 (44)
Poor government and NGO support	9 (36)
Scarcity of raw materials	18 (72)
Unwillingness of future generations to enter this profession	6 (24)

Table 3 Consumers' expectations of NTFPs

Issue	Number of consumers and relative frequency (%)
Product should be readily available	6 (50)
Should be attractive (aesthetic value)	10 (83)
Should be cheap	7 (58)
Should be durable	8 (67)
Should have multipurpose use	5 (42)
User friendly/compatibility with user	9 (75)

role in maintaining an effective coordination amongst producers and consumers; and offer some skill development programs to the workers involved in manufacturing of NTFPs and associated products.

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Appendix

See Table 4

Table 4 The diversity of NTFPs/associated products in the local market of the study area

S. I no.	Article		Raw material/source	Price range (Tk.) ¹	Availability ^a	Major use	Remarks ^b
	Common name	Local or trade name					
1	Bamboo culms	Bansh	<i>Bambusa</i> spp. <i>Melocanna baccifera</i>	20–150 Tk/culm	12 (48)	Construction, domestic utensil	↑
2	Basket	Jhuri	<i>Melocanna baccifera</i>	25–50 Tk	16 (64)	Domestic utensil	-, +
3	Basket	Tukri	<i>Bambusa</i> spp. <i>Calamus</i> spp.	75–200 Tk	06 (24)	Construction work (for laborer)	↑
4	Birdcage	Pakhir khacha	<i>Bambusa</i> spp.	75–200 Tk	09 (36)	Domestic (luxurious good!)	↓, +
5	Bookshelf	Bookshelf	<i>Bambusa</i> spp. <i>Melocanna baccifera</i>	100–250 Tk	11 (44)	Domestic	↓, +
6	Bookshelf	Bookshelf	<i>Calamus</i> spp. <i>Daemonorops jenkinsianus</i>	500–1,000 Tk	11 (44)	Domestic (luxurious good!)	↑
7	Broom	Phul jharu	<i>Thyrsanolaena maxima</i>	20–50 Tk	23 (92)	Domestic	↓, +
8	Broom	Jharu	<i>Cocos nucifera</i>	30–50 Tk	13 (52)	Domestic	-
9	Brush	-	<i>Melocanna baccifera</i> <i>Phoenix sylvestris</i>	25–50 Tk	08 (32)	Domestic	↓, +
10	Cage (chicken)	Khacha	<i>Bambusa</i> spp.	75–150 Tk	07 (28)	Domestic	↓
11	Ceiling cleaner	-	<i>Melocanna baccifera</i> <i>Phoenix sylvestris</i>	20–65 Tk	04 (16)	Domestic	↑
12	Chair	Chair	<i>Calamus</i> spp. <i>Daemonorops jenkinsianus</i>	200–1250 Tk	07 (28)	Domestic (luxurious good!)	↑

Table 4 continued

S. I no.	Article		Raw material/source	Price range (Tk.) ¹	Availability ^a	Major use	Remarks ^b
	Common name	Local or trade name					
13	Corner	Corner	<i>Calamus</i> spp. <i>Daemonorops jenkenstanus</i>	350–1,000 Tk	06 (24)	Domestic (luxurious good!)	↑
14	Cradle	Dolna	<i>Calamus</i> spp. <i>Daemonorops jenkenstanus</i>	1,000–2,500 Tk	06 (24)	Domestic	↓, +
15	Doormat	Paposh	<i>Cocos nucifera</i>	50–100 Tk	12 (48)	Domestic utensil	↓, +
16	Easy chair	Easy chair	<i>Calamus</i> spp. <i>Daemonorops jenkenstanus</i>	850–2,000 Tk	08 (32)	Domestic (luxurious good!)	↑
17	False wall	False wall	<i>Calamus</i> spp. <i>Daemonorops jenkenstanus</i>	750–1,500 Tk	05 (20)	Domestic (luxurious good!)	↑
18	Fence	Bera	<i>Bambusa</i> spp. <i>Melocanna baccifera</i>	50–100 Tk	07 (28)	Construction, domestic use	↑
19	Fishing cage	Anta	<i>Bambusa</i> spp.	75–100 Tk	03 (12)	Domestic	↓
20	Flower vessel holder	–	<i>Calamus</i> spp. <i>Daemonorops jenkenstanus</i>	300–750 Tk	06 (24)	Domestic (luxurious good!)	↑
21	Hand fan	Hat phakha	<i>Bambusa</i> spp.	20–40 Tk	09 (36)	Domestic	↓, +
22	Hand fan	Hat phakha	<i>Borassis flabellifer</i>	20–35 Tk	06 (24)	Domestic	↓, +
23	Mat	Sital pati	<i>Schuamianthus dichotoma</i>	250–1,000 Tk	11 (44)	Domestic	↑
24	Mat	Madur	–	100–200 Tk	10 (40)	Domestic	↓, +

Table 4 continued

S. I no.	Article	Raw material/source		Price range (Tk) ¹	Availability ^a	Major use	Remarks ^b
		Common name	Local or trade name				
25	Mat	<i>Typha elephantina</i>	Dari	50–85 Tk	13 (52)	Construction, domestic	↑
26	Mat	<i>Bambusa</i> spp.	Chatai	35–100 Tk	10 (40)	Construction	↑
27	Mirror holder	<i>Calamus</i> spp.	Mirror holder	150–450 Tk	05 (20)	Domestic (luxurious good!)	↑
28	Rickshaw hood	<i>Bambusa</i> spp.	Rickshaw hood	450–1,000 Tk	04 (16)	Industrial (!)	↑
29	Show pieces/Handicrafts (various)	<i>Bambusa</i> spp. <i>Calamus</i> spp. <i>Daemonorops jenkensianus</i>	Show pieces	50–2,000 Tk	11 (44)	Domestic (luxurious good!)	↑
30	Sieve	<i>Bambusa</i> spp.	Chaluni	50–150 Tk	12 (48)	Domestic utensil	–, +
31	Sofa set	<i>Calamus</i> spp. <i>Daemonorops jenkensianus</i>	Sofa set	2,000–7,500 Tk	08 (32)	Domestic (luxurious good!), corporate use	↑
32	Tea/side table	<i>Calamus</i> spp. <i>Daemonorops jenkensianus</i>	Tea table	1,000–1,750 Tk	09 (36)	Domestic (luxurious good!)	↑
33	Table lamp	<i>Calamus</i> spp. <i>Daemonorops jenkensianus</i>	Table lamp	500–1,500 Tk	09 (36)	Domestic	↑
34	Walking stick	<i>Daemonorops jenkensianus</i>	Hat lathi	100–250 Tk	08 (32)	Domestic	–
35	–	<i>Calamus</i> spp.	Mora	250–700 Tk	10 (40)	Domestic	–
36	–	<i>Bambusa</i> spp.	Mora	100–250 Tk	07 (28)	Domestic	↓, +

Table 4 continued

S. I no.	Article		Raw material/source	Price range (Tk) ¹	Availability ^a	Major use	Remarks ^b
	Common name	Local or trade name					
37	-	Kula	<i>Bambusa</i> spp.	75–125 Tk	07 (28)	Domestic utensil	↓
38	-	Bhar	<i>Bambusa</i> spp.	75–150 Tk	02 (08)	-	-

Market survey during June–August, 2008

^a The presence of the product in number of shops in relation to total number (n = 30) of shops surveyed; number in the parentheses indicates the percentage

^b Trend of utilization (based on sell); ↑ – increased; ↓ – decreased; – unchanged and presence of substitute (+ – substitute present)

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