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## **Understanding changing consumption and marketing pattern of non-timber forest products\* in a competitive world: case study from an urban area of north-eastern Bangladesh**

**Sharif Ahmed Mukul<sup>1,†</sup> and Mohammad Belal Uddin<sup>1,2</sup>**

<sup>1</sup> *Department of Forestry and Environmental Science, School of Agriculture and Mineral Sciences, Shahjalal University of Science and Technology, Sylhet 3114, Bangladesh*

<sup>2</sup> *Department of Biogeography, University of Bayreuth, D-95440 Bayreuth, Germany*

### **Abstract**

In the last decades non-timber forest products (NTFPs) and their associated products gained immense attention of researchers and development workers particularly in developing regions mostly for their potential socio-economic importance. It is also widely perceived that promoting the harvest and use of such kind of products also helps in forest conservation. However, as development process progressed in most regions alternatives or substitutes of such products becomes available in the markets, and in the next days it will be difficult to exist of these natural forest based products without adding additional products value. We conducted a market survey in an urban fringe of northern Bangladesh to investigate the NTFP-based product diversity, their marketing pattern and challenges in a dynamic world. Further information was also collected from sellers and consumers to understand their views on probable future strategies to keep the markets of these products. We recorded a total of 38 NTFP and NTFP-based secondary products from twenty five markets including- 16 permanent, 7 temporary (or semi-permanent) and 2 mobile shops. The major demand however observed on bamboo and cane based products where the supply of these products extremely suffered by scarcity of raw materials. A decreasing trend in consumption of NTFP-based articles for urban domestic use was also evident from the study. To cope with competitive markets, sellers were found to emphasize mostly on creative marketing and longevity of products' service life. In a changing global perspective it is now essential to develop new policy guidelines and active government supports for the sustenance of this industry. Finally we recommended for an efficient product's supply chain, technical advancement in production process and skill development of the worker's to secure the future market of these products that will directly or indirectly supports the life and living of thousands of rural poor people.

**Keywords:** Non-timber forest products; consumption trend; market promotion; Sylhet city; Bangladesh.

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\* 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. Environmental benefits or services, wildlife's etc are not considered as NTFPs in present paper.

† Corresponding author; E-mail: [sharif\\_a\\_mukul@yahoo.com](mailto:sharif_a_mukul@yahoo.com); Phone: (+88) - 01711 448682

## **Introduction**

Nowadays it is indisputable that, non-timber forest products plays a significant and often critical role to the quality and even survival of life of very large numbers of rural poor in most tropical developing countries (Pimentel et al. 1997; Arnold and Ruiz Pérez, 1996). In fact, NTFPs role and importance to households' are diverse and it helps households' in achieving self-sufficiency, food security, income generation, accumulation of savings and risk minimization (Arnold and Ruiz Pérez, 1996). It has also 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). In fact, for a large number of peoples NTFPs are still more important resources than timber. Study evident that, smallholders living in forest margins in diverse parts of the world earns between 10 and 25 percent of their household income from NTFPs (Wunder, 2000). Another, study suggest that, tropical forests of parts of south-east Asia provide as much as 50 US\$ per month per hectare to local people from exploiting forest resources, without considering the commercial timber values (Sedjo, 2002; Caldecott, 1988). Asia is undoubtedly the worlds' largest producer and consumer of NTFPs (Vantomme et al. 2002). According to de Beer and McDermott (1996) about 27 million people in Southeast Asia rely on the use of NTFPs. However as development process progressed rapidly in that region in the last years alternatives or substitutes of NTFPs and associated products becomes more available in the market, and presumably in the next days such natural products will have to compete with expanding global market facilities, and available synthetic/substitute products that are seemingly more durable, attractive and cheap.

Bangladesh being situated in the tropical favorable climate and Gangetic alluvial plains is endowed with a vast variety of flora including many non-timber forest products. In the country there are around 33 species of bamboo (represented by 9 genera and includes 18 naturally occurring species) (Banik, 1998), 7 species of canes, several palms, grasses and many other NTFPs. In Bangladesh the collection, processing and selling of NTFPs provide major employment opportunities to the ultra thin rural poor of about 300,000 (Basit, 1995), and contribute approximately Tk\*1.3 billion annually to the country's economy (GOB, 1993). Again, 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 provides employment and income provisions to thousands of millions peoples (Banik, 1998). A lot of studies (mostly case-studies) have so far been conducted in Bangladesh that covers various aspects of NTFPs. However most of that information's are still scattered, poorly emphasized and deals mainly with utilization (e.g., Akhter et al. 2008; Mukul et al. 2007; Miah and Chowdhury, 2003; Alam, 1992), cultivation and management (e.g., Ahmed et al. 2007; Chowdhury et al. 2007; Uddin et al. 2006) and socio-economic potentials of NTFPs to rural livelihoods (e.g., Mukul, 2008; Uddin et al. 2008; Motaleb and Hossain, 2008; Uddin and Mukul, 2007; Ahmed et al. 2007; Alamgir et al. 2006; Nath et al. 2000; Khan and Khan, 1994). We believe our study is a preliminary attempt that tries to explore what have happened in the urban NTFPs markets in the last years in a more globalized world, how traders/sellers coped with the changing situations, what attitudinal changes took place in the urban consumers/users of NTFPs, and what is required to uphold the NTFPs market in a more competitive world.

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\* Tk or Taka – Bangladeshi currency; exchange rate with US\$ was Tk. 69 (approx.) during 2007-08.

## Materials and Methods

### The study area

The study was conducted in Sylhet Sadar—the most populated *upazilla*\* of Sylhet division located in northern part of the country. The *upazilla* is famous for some specific NTFPs in the country for decades. The main products include cane based products and *sitalpati*†. The area has experienced a rapid development in the last few years and thousands of peoples from countryside have been gathered in the area for better livelihood provisions. Administratively the *upazilla* occupies an area of 517.43 sq. km, including 19.22 sq. km of government forest area (BBS, 1996). Geographically the *upazilla* located between 24°43' and 25°05' north latitudes and between 91°40' and 92°01' east longitudes. On the north the *upazilla* is bounded by Companiganj and Gowainghat *upazillas*, on the east by Golapganj and Kanaighat *upazillas*, on the south by Balaganj and Fenchuganj *upazillas*, and on the west by Bishwanath *upazilla* and Chhatak *upazilla* of Sunamganj district (Figure 1).

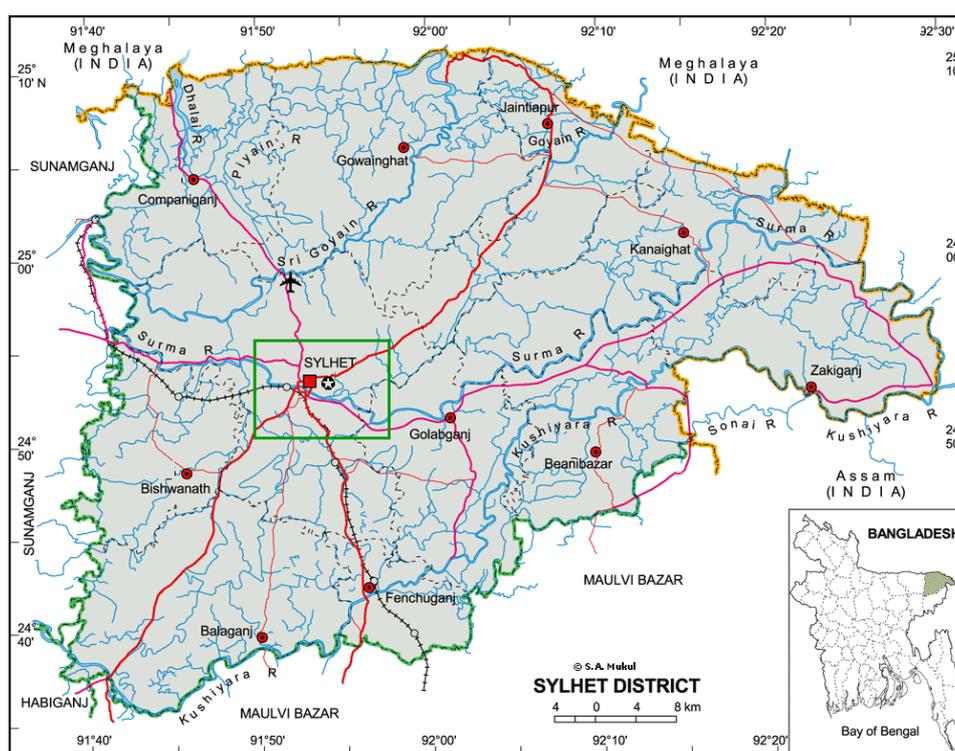


Figure 1: Map of the study area

### Data collection

Field work for the study was conducted between late 2007 and late 2008. We collected both quantitative and qualitative data through direct field visits and interviewing the respondents (i.e. traders/sellers and consumers/buyers of NTFPs). A total of 25 NTFP shops were surveyed. A semi-structured questionnaire was used to collect data where we recorded the NTFPs and finished products available in the shops, local or trade name, origin, major uses, trends of trade, and respondents view on the major challenges of NTFPs trading. For collecting information from the consumers (n = 12) we have managed an open ended but short discussion in NTFP shop/stall upon their consent.

\* sub-district; administrative entity

† A kind of sleeping mat prepared using *Schumannianthus dichotoma*

## Results and Discussion

### General background

We surveyed 25 urban NTFP traders and 12 consumers. All the respondents were male (100%). Most of the traders were illiterate (64%); where all the consumers were educated (100%). The average age of the traders and consumers were 41 and 34 years respectively. Around 72% traders were found in that profession for at least 10 years whereas the remaining were relatively new in this profession (<3 yrs). The selling of NTFPs was main occupation for about 64% traders and the share of NTFP based income to respondents (i.e., traders) gross annual income was found varied between 28% to 100%.

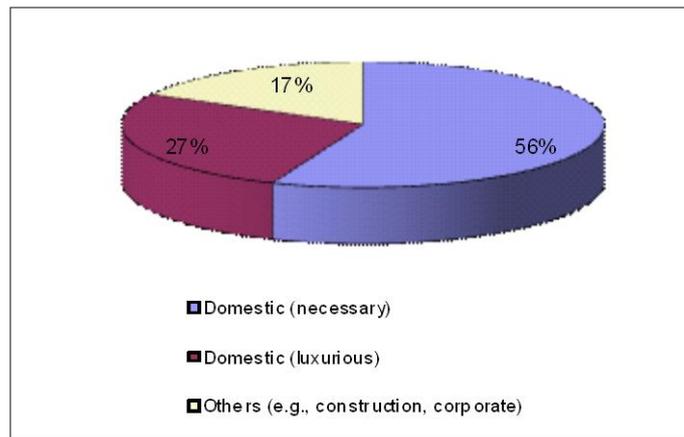
### Marketing of NTFPs and associated goods

Among the surveyed NTFP shops around 64% shops were permanent, 28% were temporary (or semi-permanent) and 8% were mobile shop (Figure 2). The permanent shops were usually located in multistoried buildings and found to sell mainly luxurious (decorative) goods for household and corporate use. These products were mostly manufactured from canes (*Calamus* spp. and *Daemonorops jenkinsianus*). The average labor force employed in these shops was about 2.4 people. On the other side the temporary or semi-permanent shops were located in roadside and they usually reside in a semi-permanent or temporary structure or even sometimes found in open spaces. The mobile shops were arranged in a specialized vehicle and they used to sell mainly domestic utensils at reasonable price.

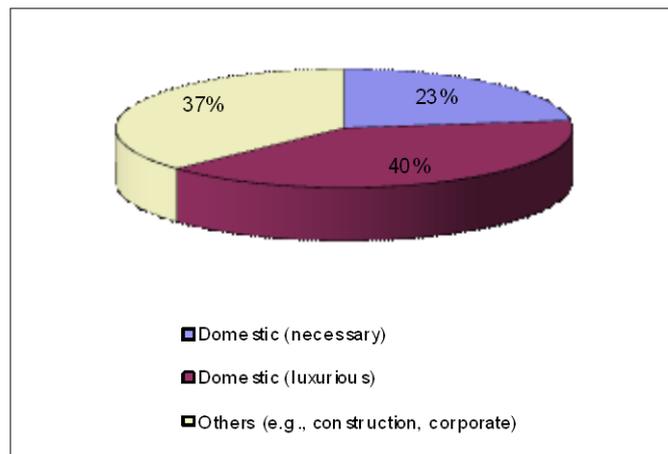


Figure 2: Types of shops surveyed

We recorded a total of 38 NTFP and associated goods from 25 surveyed NTFPs shops. Among the products 18 were based on bamboo, 15 were made using cane and 9 are based on other raw materials. Table 1 presents a brief about the products, their origin, uses, prices, availability, and trend of demand. We classified the total NTFPs into three broad categories; viz, domestic utensils (necessary), domestic decorative articles (luxurious) and others (e.g., construction, corporate etc.). According to this classification 23 articles were domestic (necessary), 11 were (luxurious) goods and the rest have been used for construction or other corporate purposes (Figure 3). The house broom (manufactured from *Thysanolaena maxima*) was the most common article (92% shops) across the surveyed shops. The prices of the NTFPs and associated products were found ranges between Tk 20 to Tk 7,500. The share of three diverse kinds of NTFPs to traders total NTFPs based income is given in Figure 4, being highest (40%) in case of decorative or luxurious goods.



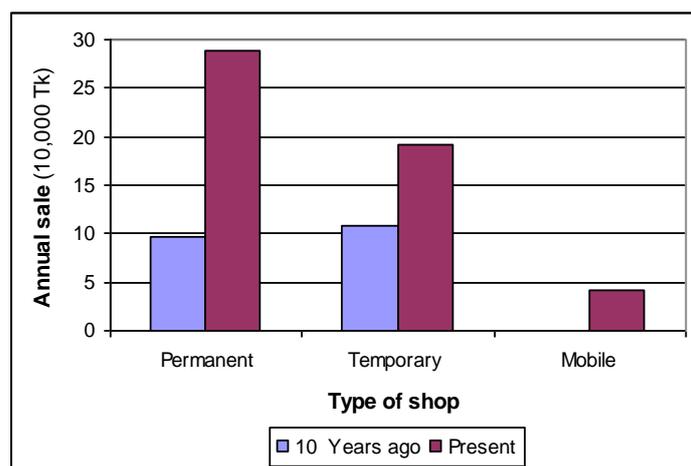
**Figure 3: NTFPs by major use**



**Figure 4: Share of income from various NTFPs**

***Changing consumption and trade pattern: strategy and adaptations in a competitive world***

A comparison of income from selling NTFPs and associated products in the surveyed shops is presented below (Figure 5). We collected an approximated estimates from the traders about their present income and income in 10 years ago (approximately 1997-98) from selling only such kind of products. A drammatcal increase in sale (from 96,000 Tk/year ten years ago to 288,000 Tk/year at present) in case of permanent shops those usually used to sell mainly luxurious or decorative goods was reported by the traders. In case temporary (or semi-permanent) shops the present income is nearly doubled compared to their incomes reported in ten years ago (108,000 Tk/year ten years ago to 192,000 Tk/year at present). It was not possible to obtain the previous income of mobile shops since it's a relatively new adaptation to cope with changing market on NTFPs. The changes in these values could be attributed by changes in consumption (based on quantity sold or demanded), value change of the products and changes in local currency price.



**Figure 5:** Income comparison from NTFPs

In the market we found alternatives or substitutes for about 12 products (i.e., 32% of total recorded products). Most of the substitute products were made by either plastic or steel, made them more durable and attractive! Interestingly we found that most of the traders are now keep most of these substitutes also in their shops along with NTFPs. Other major adaptations and strategy includes, arranging mobile shops in public places or door to door service at more reasonable price; addition of products aesthetic and use value with more attention and finishing while manufacturing, more publicity of shops and greater user compatibility of products.

**Major problems, challenges and expectations: sellers and consumers view**

Table 2 lists the major constraints in development and trading of NTFPs and associated products according to the traders in the locality. Most of the traders (84%) identified competition with substitute goods as the major challenge to NTFPs market nowadays. Other challenges include scarcity of raw materials (72%), high production and processing cost of products (72%) and changes in consumers taste (64%). Again it was found that (in Table 3) consumers' expectations on various NTFPs and associated goods were mainly concentrated on their visual value (83%) followed by user compatibility (75%) and durability (67%) of products.

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

| Challenges/Issues  | No. of sellers opined (sellers) |
|--|---------------------------------|
| Competition among the sellers  | 09 (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 cost  | 08 (32)                         |
| Lack of institution to encourage or trained local crafters/ <i>karigar</i> | 07 (28)                         |
| Market insecurity (seasonal demand fluctuation)                            | 11 (44)                         |
| Poor government and NGO support  | 09 (36)                         |
| Scarcity of raw materials  | 18 (72)                         |
| Unwillingness of future generations to come in this profession             | 06 (24)                         |

**Note:** Number in the parentheses indicates the percentage.

**Table 1:** The diversity of NTFP's/associated products in the local market of the study area

| S.l no. | Article(s)           |                  | Raw material(s) / Source(s)                             | Price range (Tk) <sup>1</sup> | Availability <sup>2</sup> | Major use(s)                    | Remarks <sup>3</sup> |
|---------|----------------------|------------------|---|-------------------------------|---------------------------|---------------------------------|----------------------|
|         | Common name          | Local/Trade name |   |                               |                           |                                 |                      |
| 01      | Bamboo culms         | Bansh            | <i>Bambusa</i> spp.<br><i>Melocanna baccifera</i>       | 20-150 Tk/culm                | 12 (48)                   | Construction, domestic utensil  | ↑                    |
| 02      | Basket               | Jhuri            | <i>Melocanna baccifera</i>                              | 25-50 Tk                      | 16 (64)                   | Domestic utensil                | -, √                 |
| 03      | Basket               | Tukri            | <i>Bambusa</i> spp.<br><i>Calamus</i> spp.              | 75-200 Tk                     | 06 (24)                   | Construction work (for laborer) | ↑                    |
| 04      | Birdcage             | Pakhir khacha    | <i>Bambusa</i> spp.                                     | 75-200 Tk                     | 09 (36)                   | Domestic (luxurious good!)      | ↓, √                 |
| 05      | Bookshelf            | Bookshelf        | <i>Bambusa</i> spp.<br><i>Melocanna baccifera</i>       | 100-250 Tk                    | 11 (44)                   | Domestic                        | ↓, √                 |
| 06      | Bookshelf            | Bookshelf        | <i>Calamus</i> spp.<br><i>Daemonorops jenkinsianus</i>  | 500-1000 Tk                   | 11 (44)                   | Domestic (luxurious good!)      | ↑                    |
| 07      | Broom                | Phul jharu       | <i>Thysanolaena maxima</i>                              | 20-50 Tk                      | 23 (92)                   | Domestic                        | ↓, √                 |
| 08      | Broom                | Jharu            | <i>Cocos nucifera</i>                                   | 30-50 Tk                      | 13 (52)                   | Domestic                        | -                    |
| 09      | Brush                | -                | <i>Melocanna baccifera</i><br><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><br><i>Phoenix sylvestris</i> | 20-65 Tk                      | 04 (16)                   | Domestic                        | ↑                    |
| 12      | Chair                | Chair            | <i>Calamus</i> spp.<br><i>Daemonorops jenkinsianus</i>  | 200-1250 Tk                   | 07 (28)                   | Domestic (luxurious good!)      | ↑                    |
| 13      | Corner               | Corner           | <i>Calamus</i> spp.<br><i>Daemonorops jenkinsianus</i>  | 350-1000 Tk                   | 06 (24)                   | Domestic (luxurious good!)      | ↑                    |
| 14      | Cradle               | Dolna            | <i>Calamus</i> spp.<br><i>Daemonorops jenkinsianus</i>  | 1000-2500 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.<br><i>Daemonorops jenkinsianus</i>  | 850-2000 Tk                   | 08 (32)                   | Domestic (luxurious good!)      | ↑                    |
| 17      | False wall           | False wall       | <i>Calamus</i> spp.<br><i>Daemonorops jenkinsianus</i>  | 750-1500 Tk                   | 05 (20)                   | Domestic (luxurious good!)      | ↑                    |
| 18      | Fence                | Bera             | <i>Bambusa</i> spp.<br><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.<br><i>Daemonorops jenkinsianus</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>Borassia flabellifer</i>                             | 20-35 Tk                      | 06 (24)                   | Domestic                        | ↓, √                 |

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|    |   |               |   |              |         |  |      |
|----|---|---------------|---|--------------|---------|--|------|
| 23 | Mat                                       | Sital pati    | <i>Schumannianthus dichotoma</i>  | 250-1000 Tk  | 11 (44) | Domestic                                     | ↑    |
| 24 | Mat                                       | Madur         | -   | 100-200 Tk   | 10 (40) | Domestic                                     | ↓, √ |
| 25 | Mat                                       | Dari          | <i>Typha elephantina</i>  | 50-85 Tk     | 13 (52) | Construction, domestic                       | ↑    |
| 26 | Mat                                       | Chatai        | <i>Bambusa spp.</i>   | 35-100 Tk    | 10 (40) | Construction                                 | ↑    |
| 27 | Mirror holder                             | Mirror holder | <i>Calamus spp.</i>   | 150-450 Tk   | 05 (20) | Domestic (luxurious good!)                   | ↑    |
| 28 | Rickshaw hood                             | Rickshaw hood | <i>Bambusa spp.</i>   | 450-1000 Tk  | 04 (16) | Industrial (!)                               | ↑    |
| 29 | Show pieces /<br>Handicrafts<br>(various) | Show pieces   | <i>Bambusa spp.</i><br><i>Calamus spp.</i><br><i>Daemonorops jenkensianus</i> | 50-2000 Tk   | 11 (44) | Domestic (luxurious good!)                   | ↑    |
| 30 | Sieve                                     | Chaluni       | <i>Bambusa spp.</i>   | 50-150 Tk    | 12 (48) | Domestic utensil                             | -, √ |
| 31 | Sofa set                                  | Sofa set      | <i>Calamus spp.</i><br><i>Daemonorops jenkensianus</i>                        | 2000-7500 Tk | 08 (32) | Domestic (luxurious good!),<br>corporate use | ↑    |
| 32 | Tea /side table                           | Tea table     | <i>Calamus spp.</i><br><i>Daemonorops jenkensianus</i>                        | 1000-1750 Tk | 09 (36) | Domestic (luxurious good!)                   | ↑    |
| 33 | Table lamp                                | Table lamp    | <i>Calamus spp.</i><br><i>Daemonorops jenkensianus</i>                        | 500-1500 Tk  | 09 (36) | Domestic                                     | ↑    |
| 34 | Walking stick                             | Hat lathi     | <i>Daemonorops jenkensianus</i>   | 100-250 Tk   | 08 (32) | Domestic                                     | -    |
| 35 | -   | Mora          | <i>Calamus spp.</i>   | 250-700 Tk   | 10 (40) | Domestic                                     | -    |
| 36 | -   | Mora          | <i>Bambusa spp.</i>   | 100-250 Tk   | 07 (28) | Domestic                                     | ↓, √ |
| 37 | -   | Kula          | <i>Bambusa spp.</i>   | 75-125 Tk    | 07 (28) | Domestic utensil                             | ↓    |
| 38 | -   | Bhar          | <i>Bambusa spp.</i>   | 75-150 Tk    | 02 (08) | -  | -    |

<sup>1</sup> Source: Market survey during June-August, 08.

<sup>2</sup> The availability of the product in no. of shops in relation to total no. of shops surveyed; number in the parentheses indicates the percentage.

<sup>3</sup> Trend of utilization (based on market demand / sell; ↑ -- increased; ↓ -- decreased; -- unchanged) and presence of substitute (√ - substitute present)



**Figure 6:**  
An urban NTFP shop in Sylhet city  
© S.A. Mukul (2007)



**Figure 7:**  
A mobile NTFP shop in the study area  
© S.A. Mukul (2007)



**Figure 8:**  
People sales broom sticks for domestic use  
on foot  
© S.A. Mukul (2008)

**Figure 9:**  
A weekly village NTFP market (*hat*) arranged  
in roadside  
© S.A. Mukul (2008)



**Table 3:** Consumers' expectations on NTFPs

| Expectations/ Issues                            | No. of respondent opined (consumers) |
|---|--------------------------------------|
| Should be chiefly available                     | 06 (50)                              |
| Products should be attractive (aesthetic value) | 10 (83)                              |
| Should be cheap                                 | 07 (58)                              |
| Should be durable                               | 08 (67)                              |
| Should have multipurpose use                    | 05 (42)                              |
| User friendly / compatibility with user         | 09 (75)                              |

**Note:** Number in the parentheses indicates the percentage.

### Conclusion

Overall although the study illustrated a changing and challenging situations in NTFPs market but it also provides some innovative approaches developed by NTFPs traders that help them to minimize the adversity of this changing market situation. For a successful business all elements of the value chain however should work well together (Belcher and Schreckenber, 2007) and government and non-government development organizations (NGO) needs to play the key role to strengthen the existing market that will ultimately improve the quality of livings of peoples who are directly or indirectly dependent on this sector/profession. Government and NGO's could support the research on NTFPs development, domestication and promotion; provide small loans to the small-scale entrepreneurs; helps in technical advancement of the processing units, and in storage. They could also play an important role in maintaining an effective coordination among producers and consumers and can offer some skill development programs to the workers involved in manufacturing of NTFPs and associated products.

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