

Livelihood Pattern and Forest Dependence of the Major Tribes in Rangamati, Bangladesh

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Indigenous people are of great interest and intense significance from forest perspective, as they inhabit for a very long time over the same region. In Bangladesh, tribal communities reside with close touch of forests and thus, quite dependent on it. That's why, it of tremendous importance to study their Do's and Don'ts in order to propose better forest and environmental management interventions considering options for enhancing livelihoods of the indigenous communities in Bangladesh. In this research, four major tribes of Rangamati in four sites have been purposively selected for questionnaire survey. Data has been taken into consideration from two vital viewpoint, livelihood pattern and forest dependence, assuming that all tribes are dependent on forest resources for their livelihood. And it is found that, *Tanchangya* and *Chakma* community are more economically well-off in terms of land ownership and income per capita respectively. Forestry practice provides little share in their total income though *Tanchangya* community has the highest land per capita in forestry sector as well as in agricultural sector. On the other hand, *Marma* community's living standard is comparatively low as their income and land per capita is low, and they are more dependent on forest. *Tripura* community keeps the comparative middle status in almost every sector. A variety of other social and environmental factors were also collected and thoroughly analyzed here which can be very useful for further study.

Keywords: Forest dependence, Livelihood, Tribal people, Bangladesh

Introduction

In today's world, there is a general conformity about the importance of indigenous people on social and cultural practice. As Indigenous peoples constitute most of the world's cultural diversity, the knowledge and study on those regions require vast amount of data about those people's way of life. Indigenous people worldwide numbers between 300-500 million, embody and nurture 80% of the world's cultural and biological diversity, and occupy 20% of the world's land surface. Indigenous local people live in and around naturally origin virgin and secondary forests of the Asia, Asia and the Pacific, Africa, Central and Latin America. Indigenous people are concerned with preserving land, protecting language and promoting culture. Some Indigenous Peoples strive to preserve traditional ways of life, while others seek greater participation

in the current state structures. Despite such extensive diversity in Indigenous communities throughout the world, all Indigenous peoples have one thing in common - they all share a history of injustice.

A total of 35 different ethnic communities with varied size and population are living in Bangladesh. Among them about two dozens of ethnic communities live in and around the hill forests of southeastern Bangladesh (Chittagong and Chittagong Hill Tracts) whereas northeastern hill forests are inhabited by a culturally distinguished indigenous community *Khasia* living within the reserved forests of Sylhet region. A considerable number of communities including *Garo*, *Hazong* and *Koch* live within the fringe of the plain land *Sal* forest where *Garo* is dominant in terms of population. According to the government official statistics total ethnic population in Bangladesh is over 1.2 million and they constitute 1.13% of the country's total population (BBS, 2003).

The ethnic communities in Bangladesh are still left as the most disadvantaged groups by the government and policy makers. These groups sometimes feel themselves alienated from the mainstream in terms of actual practice and development behaviour. As a consequence an antagonistic relationship has been in existence between the indigenous people and the Forest Department since long before. Forest Department claims that the tribal communities are primary destroyers of the forest and its resources. The indigenous people, on the other hand, believe that different development projects and invasion of plain land people to the tribal area through political decision of the government are adversely affecting their lifestyle and livelihood. Hence, the importance of studying indigenous livelihood pattern especially in forestry research sector can no way be ignored, as the rural setting refers more dependence on forest than the city areas and diversified practice needs diversified research. This study was carried out in order to have a general understanding of indigenous lifestyle, to get idea about the socio-economic status of indigenous people and also to find out the forest dependence of the major tribes of Rangamati region in Bangladesh.

Forest 'dependent' people and types of People-Forest relationships

In a general sense it could be argued that all people (including urban dwellers) have some dependence on forests, at least for products such as timber and paper. However, many people rely heavily on forests for their livelihoods (Table 1.) Rural households rely heavily on natural resources. Meta-studies indicate that as much as 20–25% of rural people's income may be derived from environmental resources in developing countries (WRI, 2005; Vedeld et al., 2007). Poor people typically engage more in low-return forest activities, but often fail to accumulate capital from such activities. The concept of 'forest dependency' is highly problematic. Although it is possible to refer loosely to any people who rely on forest products for their livelihood as being to some extent 'forest dependent', this loose usage obscures fundamental distinctions between different types of relationships. Byron and Arnold (1997) have presented a fundamental critique of the use of the term 'forest dependency', arguing that it is more useful to present a typology of different types of users. They make a crucial distinction between people who rely on forest use and have no alternative, and those who use forest products or engage in economic activities involving forests, but do so as a matter of choice.

Indigenous people are the children of forests depending on forests for their subsistence and other economic activities. Colchester (2006) reported that about 60 million indigenous people are almost totally dependent on forests. Amazonian Indians have been depending on forests, for centuries, for their livelihood through shifting agriculture, fishing, hunting and harvesting of forest products (Dubois, 1996). Pygmies

of Central African rain forests have traditionally lived by specializing in hunting and gathering wild forest resources, which they consume themselves or trade to neighbouring farmers (Dembner, 1996). Traditionally, indigenous communities are knowledgeable about natural resources on which they are intimately dependent (Khisa, 1998). Indigenous communities are considered, by many quarters, to be a threat to forest conservation. But there are instances from different parts of the world that the indigenous forest dwellers apply traditional knowledge and new tools and techniques in forest management. Over the past two decades, the importance of farmers' Indigenous Knowledge (IK) in managing natural resources and environment has gained increasing recognition (Teklehaimanot *et al.*, 2001).

Table 1: Forests contribution ways to human livelihood

Contribution	Pattern
Household use(subsistence)	Timber, fuel wood, wild foods (animal and plant), medicinal plants, other NTFPs, grazing for animals, forest-based agriculture, nutrient subsidies for agriculture.
Food security	Depend on forest foods when crops fail to meet seasonal needs or to provide dietary supplements ² .
Income generation	From sale of any products listed above or sale of agricultural or livestock production dependent on forests.
Income from forest-based labor	By working in different forest based works.

Fishcer *et al.*, 1997 has identified three broad types of people-forest relationships as follows:

- i) People who live inside forests, often living as hunter-gatherers or shifting cultivators, and who are heavily dependent on forests for their livelihood primarily on a subsistence basis. People in this category are often indigenous peoples or people from minority ethnic groups. They are, thus, usually outside both the political and economic mainstream.
- ii) People who live near forests, usually involved in agriculture outside the forest, who regularly use forest products (timber, fuel wood, bush foods, medicinal plants etc) partly for their own subsistence purposes and partly for income generation. For those involved in agriculture, nutrient supplements from forests are often of critical importance to productivity. Such supplements can be in the form of mulch from leaves gathered in the forest. Another source of nutrient supplement is forest grazing by livestock which converts nutrients from forest biomass into manure.
- iii) People engaged in such commercial activities as trapping, collecting minerals or forest industries such as logging. Such people may be part of a mixed subsistence and cash economy. Where these people differ from the first two categories is in the fact that they depend on income from forest-dependent labor rather than from direct subsistence use of forest products. It is important to note, however, that this type of people-forest interaction can exist even in a highly monetized context.

Different issues of indigenous people in Tropical rainforests

Tropical rainforests are among the world's most diverse and at the same time most threatened ecosystems on the earth. For some context, it is important to highlight some fundamental issues which have yet to be truly taken on board for forest conservation to be possible. The first issue is that forests are not empty. Tropical forests have been inhabited by indigenous and traditional people for hundreds of thousands of years, well before the creation of most of the modern national states. Each of those people has a very precise knowledge of the boundaries of the territory used, managed and owned by them. The second issue is that forest people hold the rights to those territories by virtue of first settlement. However, these rights are not recognized by most national governments, which declare that forests legally belong to the state. This legal injustice -in most cases concocted by colonial rule - paves the way to forest destruction through government concessions for large scale exploitation, including industrial logging, mining, oil drilling, plantations and many other activities. The third issue is that forest people hold the knowledge about the forest. Proof of this is that for centuries they managed to live with the forest while fulfilling all their material and spiritual needs through skillful management. The causes of most modern destructive practices is usually found in external pressures on forests from government policies rather than in forest peoples' themselves. The fourth and perhaps most important issue regarding the future of the forests is that forest people are the ones more directly interested in their conservation, because forests not only ensure their livelihoods, but are an integral part of their way of life, where respect for nature is at the core of their culture. They are not mere "stakeholders" but "rights-holders" and as such they are the most willing to protect their resources in the long term. Forest people thus constitute a ray of hope for the forests' future. They hold the rights and the knowledge and their physical and cultural survival depends on ensuring their conservation. In many cases, forest people are adapting their knowledge to a changing situation, working out and implementing alternatives for sustainable and equitable livelihoods, away from the official and already meaningless "sustainable development" discourse which governments have emptied of the meaning it initially carried.

Methodology

This paper discusses about four major tribes viz. *Chakma*, *Marma*, *Tanchangya* and *Tripura* of Rangamati in Chittagong Hill Tracts of Bangladesh. Data was taken from four separate sites and from two significant standpoint, livelihood pattern and forest dependence. Questionnaire survey was done to collect the data. From those data, their socio-economic status was analyzed and scrutiny is done to find out who are relatively more dependent on forest resources for their living. It is hypothesized that, major tribes are equally dependant on forest for their livelihood. It is also assumed that they have equal impact on forest. The study site for each of the tribes was as follows-

- a. For *Tanchangya* community- Sapchari para, 5 no. Wagga Union, Upazilla-Kaptai, District- Rangamati.
- b. For *Marma* community- Tambapara, 5 no. Wagga Union, Upazilla-Kaptai, District- Rangamati.
- c. For *Chakma* community- Dewan para, Manikchari, Shapchari Union, Upazilla-Sadar, Rangamati.
- d. For *Tripura* community- Kellamura, Balukhali union, Upazilla-Sadar, Rangamati.

Purposive clustered sampling was followed. Site was chosen purposively to get typical data from the tribes. This was done in order to make the results identical to a

bigger extent. Reconnaissance survey was done to choose the method of sampling. A total of 24 indigenous families were interviewed taking 6 from each community mentioned above. MS Excel was used to analyze the data.

Result and Discussion

Land ownership

Landownership and landuse pattern are important parameter for livelihood studies. Land per capita and land used for different categories are analyzed for this study. Land ownership for forestry sector shows how the communities are dependent on forest and also it gives a clue to find out the effective utilization of forest land. In figure 1, it is shown that total land per capita of the *Tanchangya* community was highest (101.58 decimals). *Tripura* and *Chakma* possess a per capita land of 49.43 decimals and 54.64 decimals respectively. But in case of *Marma* per capita land holdings is about 36.82 decimals which was the minimum.

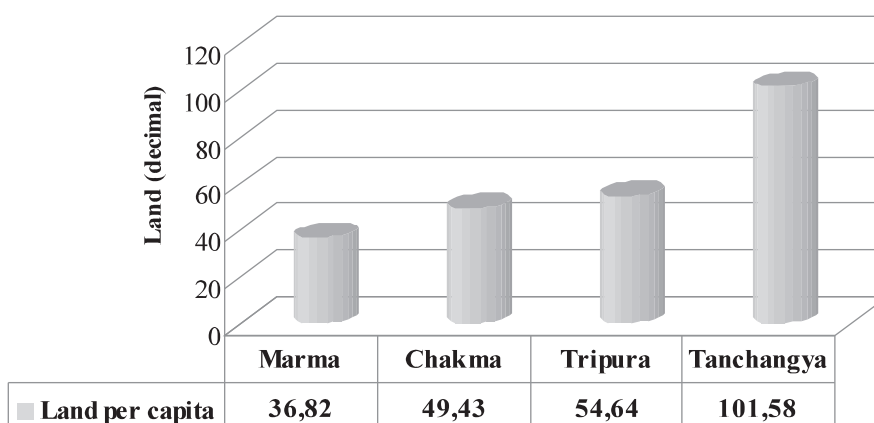


Fig. 1: Per capita land holdings among the major tribes of the study area

Land use in different categories

Table 2 shows the per capita land by landuse type owned by the four major tribes of Rangamati. In *Tanchangya* community per capita land holdings under forestry, agriculture and homestead were 68.42 decimals, 33.16 decimals and 5.26 decimals respectively. Though the amount of forest land per capita is highest in *Tanchangya*, yet the revenue from forestry was not that maximum. That refers to ineffective use of forest land. In *Marma*, per capita land holdings under forestry were 31 decimals and small amount land (0.61 decimal) owned under homestead. Yet the share of forestry in their total revenue was the highest, which means they are effective user of forest land. In case of *Chakma* and *Tripura* community, per capita lands possession under forestry was 28.71 decimals and 54.11 decimals respectively. Per capita homestead land owned by *Tripura* community was 29.29 decimals which was the highest among the four tribes.

Table 2: Analysis of per capita land ownership by landuse types among the major tribes of the study area

Landuse type	Per capita holdings by communities (decimal)			
	<i>Tanchangya</i>	<i>Marma</i>	<i>Chakma</i>	<i>Tripura</i>
Forestry	68.42	31.0	28.71	54.11
Agriculture	33.16	5.29	20.0	0.36
Homestead	5.26	0.61	0.81	29.29

Income analysis

To find out the livelihood pattern, income and income sources from each of the four communities data has been interpreted. Income per capita and per family are compared and contribution of each income sources is provided. The bar diagram (Fig. 2) shows the per capita income of four major tribes of Rangamati. The highest per capita income was in *Chakma* tribe which was 24,774.19 tk¹/year and minimum income was found in *Marma* community. It was observed that in *Chakma* tribe, more family members were involved in income generating activities other than *Tripura*, *Tanchangya* and *Marma*. Analysis of the family income by the respondent households' shows (Fig. 3) that highest family income in the study area was found

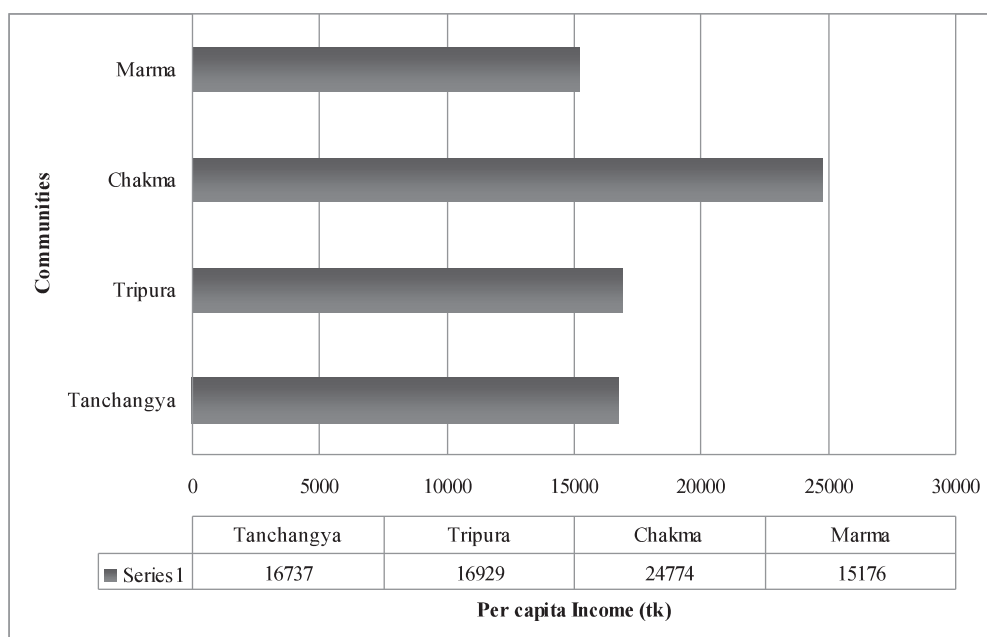


Fig. 2: Per capita income of the major tribes of the study area

¹ Taka is the Bangladeshi currency; 1USD=69 Taka

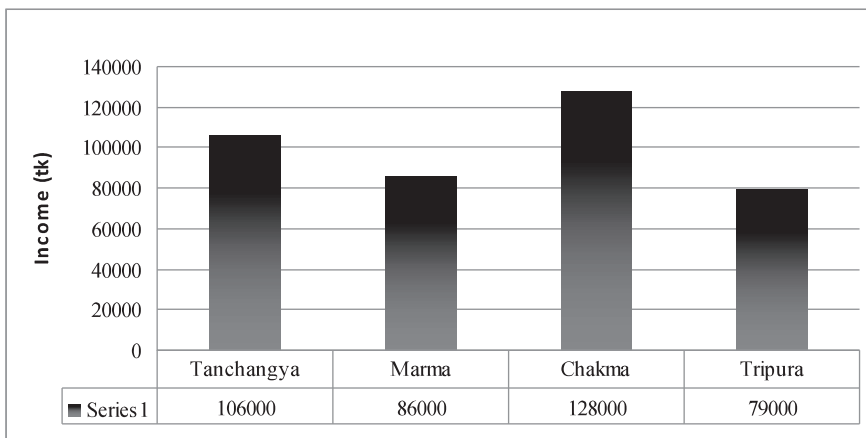


Fig. 3: Per family income of the major tribes in the study area

in *Chakma* families (128000 tk/year) and minimum in *Tripura* families (79000 tk/year). Households with high involvement in different income generating activities generated more income. *Chakma* family members were much more involved in different activities among the four major tribes in Rangamati. Though income per capita was less for *Tanchangya* than *Tripura*, but income per family was more in *Tanchangya*. This is due to the more family members in *Tanchangya* families than *Tripura*.

Income sources of the indigenous communities

Figure 4 indicates the percentage of income source of *Tanchangya* community. Results show that maximum income was derived from service (52%) and minimum from business (2%). On the other hand 38% income was generated from agriculture and 8% was from forestry activities. 39% people (15 among 38) were earning member in the 6 families in the *Tanchangya* community. In the case of *Marma* community, it was found that income was

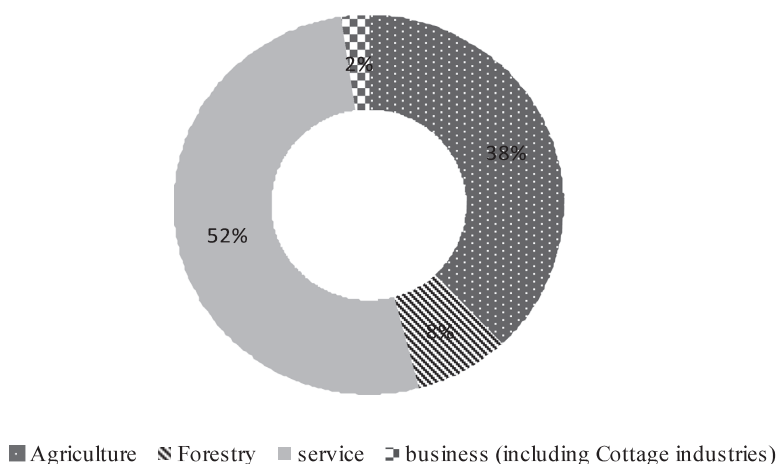


Fig. 4: Income source distribution of *Tanchangya* community

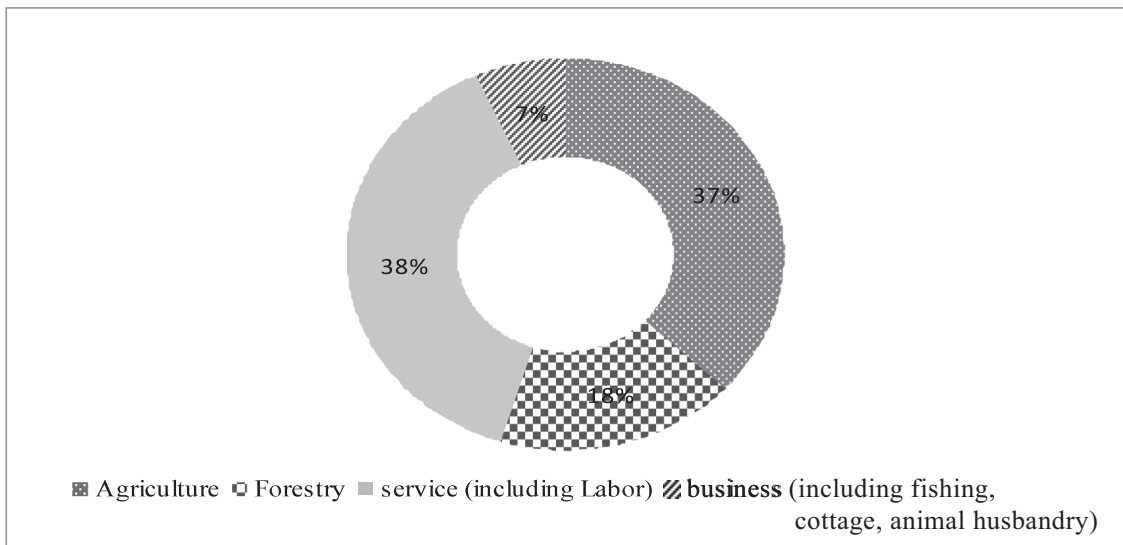


Fig. 5: Income source distribution of *Marma* community

generated from service and agriculture which were 38% and 37% respectively. From forestry activities 18% monetary income was received and a small amount of percentage (7%) was derived from business (Fig. 5). Seventeen out of thirty four persons in 6 families are working member representing 50% of the total family members are workforce. The maximum percentage of income (67%) of *Chakma* community was achieved from service and minimal percentage income from forestry (only 5%) (Fig. 6). From agriculture and business activities *Chakma* community earned 8% and 20% income respectively. About 48% people of the *Chakma* people contributed monetary support to their families.

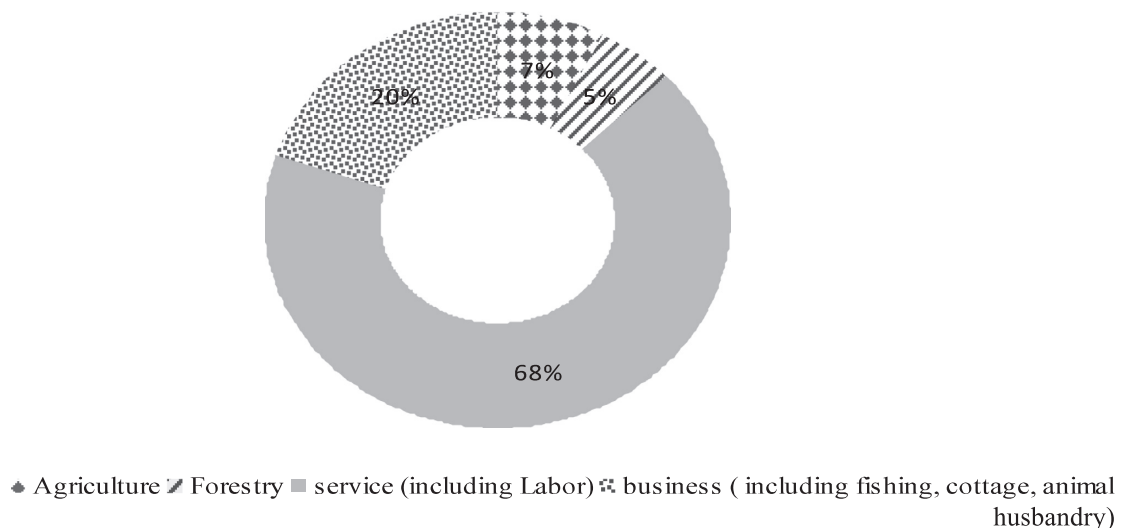


Fig. 6: Income source distribution of *Chakma* community

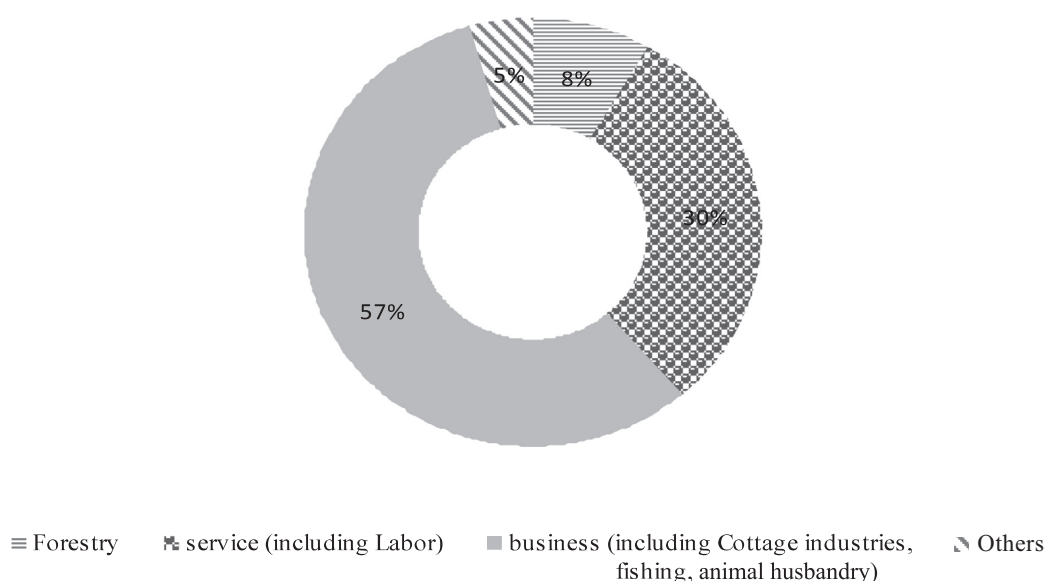
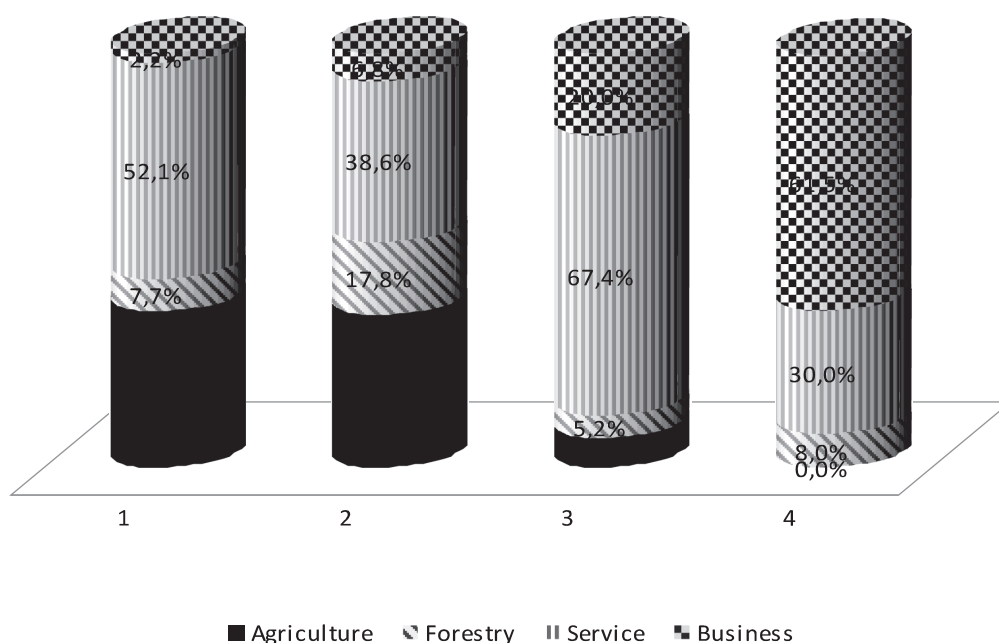


Fig. 7: Income source distribution of *Tripura* community

From Figure 7, it was observed that Maximum percentage of income was achieved from business (57%) in *Tripura* community and from service 30% share of income was generated. About 8% from forestry activities and a small percentage of income were reported to be achieved from other source. But surprisingly no income was noticed from agriculture. Ten out of 28 people in 6 families of this community are earning member (36%).

Overall analysis of income source of the major tribes

Figure 8 shows the analysis of all income sources for these four tribal communities. It also shows the contribution of each income source to the families of these groups. In this analysis, all other activities that are not belong to agriculture, forestry and service (for *Tripura* communities), are assumed to belong to the business activities. This is done to compare the percentage of contribution with other communities. It shows that *Tanchangya* and *Chakma* communities are more dependent on different types of services. *Tripura* communities are more dependent on business.



Legend: 1 = *Tanchangya*, 2 = *Marma*, 3 = *Chakma* and 4 = *Tripura* community
 Fig. 8: Income sources analysis of 4 major tribes in Rangamati.

Share of forestry activities as Income Source

More or less, each community is dependent on forest resources in the study areas. Per capita and per family income from forestry practice and share of forest contribution have been calculated for each tribe as follows. In the study area among the four major tribes, the highest per family income from forestry practice was derived by *Marma* (15416.67 tk/year) and the lowest per family income was by *Tripura* (6500 tk/year). Per family income of *Chakma* and *Tanchangya* were 8333.33 tk/year and 8166.67 tk/year respectively (Fig. 9). The highest per capita annual income from forestry practice was found in *Marma* community (2720.59 tk) and lowest per capita annual income was observed in *Tanchangya* community (1289.47 tk). It was also found that income per capita per annum from forestry practice in *Chakma* and *Tripura* community were 1612.90 tk and 1392.86 respectively.

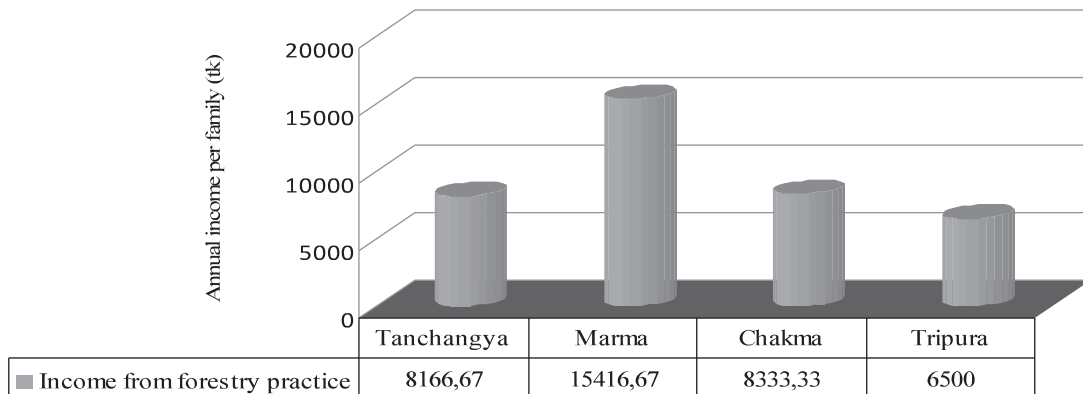


Fig. 9: Annual family income of the major tribes in Rangamati from forestry practice

From the bar diagram (Fig. 10), it was observed that total per capita income both in forestry and all sectors was high in *Chakma* community but it had a little bit contribution in total per capita income. The other three communities were almost same but in case of *Marma* community the income per capita were a bit more.

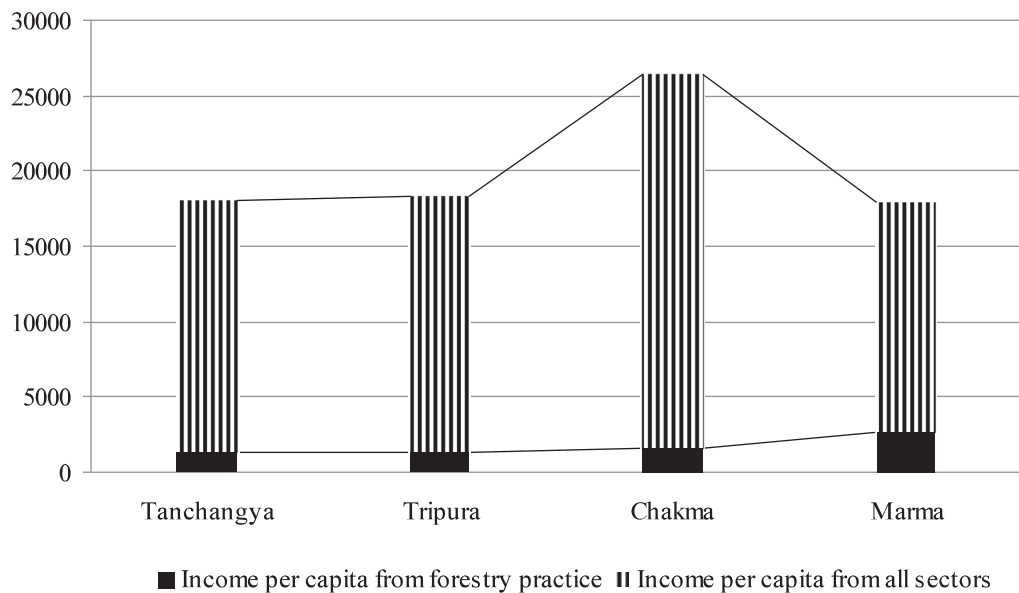


Fig. 10: Income per capita analysis from forestry and all sectors

Distribution of share of forestry activities in average per capita income of four major tribes of Rangamati shows that the maximum share (45%) of forestry activities was in *Marma* community followed by *Tripura*(20%), *Tanchangya*(19%) and *Chakma*

(16%) community. This indicates that *Marma* community is more dependent on forestry practice for their livelihood.

Forest dependency

Table 3 shows the distribution of forest dependence of four major tribal communities of Rangamati based on the number of person engaged in different forest based activities. From the result it was observed that, *Marmas'* were much more dependent on forest (32.35%) for housing materials than other three communities and no forest dependency for housing materials was found in *Tripura* community. In case of grazing livestock or gathering fodder, *Tripura* community were dominant (21.43%) and found the highest percentage (35.29%) in *Marma* community with regards to gathering fuelwood. In gathering raw materials for cottage industry, 13.16% *Tanchangya* community was forest dependent. For medicinal purpose, only *Tanchangya* community was forest dependent in the study area (13.16%) and no forest dependency was found in other three communities for medicinal purposes.

Table 3: Analysis of forest dependence of the major tribes of Rangamati based on the number of persons engaged in different forest based activities

Communities	Percentage of persons engaged in different forest based activities				
	Housing materials	Grazing livestock/Gathering fodder	Gathering fuelwood	Gathering Raw materials for cottage industry	Medicinal purpose
<i>Tanchangya</i>	28.95%	7.89%	28.95%	13.16%	13.16%
<i>Marma</i>	32.35%	14.70%	35.29%	11.77%	0%
<i>Chakma</i>	6.45%	9.68%	32.26%	9.68%	0%
<i>Tripura</i>	0%	21.43%	25%	3.57%	0%

Food dependence

Food is important parameter in community livelihood assessment. Water source indicates the quality of life a community is living. Among the four major tribes of Rangamati, those who were dependent on food with respect to both agricultural practice and marketing, the maximum percentages were found in *Chakma* (83%) and *Tanchangya* (83%) (Table 4). Most of the *Tripura's* were dependent on food from market (83%). That means that their agricultural facilities are more or less absent. Besides, the land for *Tripura* community has been surrounded by water and so they have got minimal land suitable for agriculture. It might be the reason of this deviation.

Table 4: Analysis of food dependence of the major tribes in the study area

Communities	Pattern of food dependence (%)		
	Market	Family agriculture	Both
<i>Tanchangya</i>	0	17	83
<i>Marma</i>	33	0	67
<i>Chakma</i>	17	0	83
<i>Tripura</i>	83	0	17

Water source analysis

Table 5 shows that 66% *Tanchangya* families are only dependent on tube-well for water source, but only tube-well could not provide the necessary water to other three communities. They need some alternate source of water. The *Chakma* community totally use well or ring well or canal for water source because of lack of tube well around their territories. But all of the *Tripura* and *Marma* communities utilize both tube-well and well or ring well or canal as water source. This is happened due to the unavailability of water in the late winter and summer season, when no water is available in the tube-well.

Table 5: Analysis of water source of the major tribes in the study area

Communities	Dependence on different source of water (%)		
	Tube well	Well/Ring/Canal	Both
<i>Tanchangya</i>	66	17	17
<i>Marma</i>	0	0	100
<i>Chakma</i>	0	100	0
<i>Tripura</i>	0	0	100

Miscellaneous findings

Two houses out of 24 (about 8%) was Semi-pucca, where other 22 (about 92%) were made of bamboo, straws and corrugated Iron sheet. Nearly 100% household uses mud stoves for cooking. Fuelwood and agricultural residues are used in this type of stoves. It has been evident from the survey that only 2 *Tripura* families collect fuelwood from market. Other 92% families collect fuelwood from neighboring forest land. Twenty two out of 24 toilets have sanitary latrine. That means, almost 92% household is provided with sanitary latrine facilities. It is found that only 8% households have migrated to the research area and the remaining 92% are used to be the permanent resident of the areas. However, these migration findings may not resemble with real migration pattern in this area because huge number of non-tribal family was rehabilitated to this region by the government. Ninety six percent families (23 in 24) have claimed that their homestead area is legally owned by themselves, where other 4% has confessed that it might have encroached upon by their ancestors. Twenty nine percent respondents want to address themselves as hill people, 8% want to call themselves as tribal people. Other 63% respondent want to be recognized as indigenous people.

Conclusion

This study has provided a general idea of the life, living style and land use pattern of the major tribal communities of Chittagong Hill Tracts region in Bangladesh. Specific information about their forest reliance is also derived. Through the study, it is observed that role of forester and Military to the tribal communities are sometimes conflicting. Besides, Government is unfortunately inactive for stimulating any development strategy there. Indigenous communities are not actively involved with any kind of practice with Forest Department. No participatory appraisal scheme is running over there. Some of the families are passing their days well, but most of the families have no savings and thus frustrated about future insecurity. There are some Non-governmental organizations working sporadically with short term vision. An integrated

development scheme is assumed to play a pivotal role for the development of these communities. Forest Department should actively involve the tribal people in their participatory afforestation project and co-management activities. Although literally these people have got the highest priority to be included as participatory stakeholders of the forest, they still lack of real access to the participatory forest management. Indigenous communities in Bangladesh can no longer be walked over, as has been always the case. The findings of this research may help to ignite certain development policy for their well-being. The study is comparative in nature, the results found through the study can be assumed as identical to the large scale study.

References

- BBS., *Statistical yearbook of Bangladesh 2001*. Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh, (2003).
- Byron, N. and Arnold, M., *What Futures for the People of the Tropical Forests?* CIFOR Working Paper No. 19. Bogor: Centre for International Forestry Research, (1997).
- Colchester, M., *Justice in the forest: Rural livelihoods and forest law enforcement*. Forest Perspectives 3, CIFOR, Indonesia, (2006).
- Dembner, S.A., *Forest peoples in the central African rain forest: focus on the pygmies*. *Unasylva* 186(47): 3-7, (1996).
- Dubois, J.C.L., *Uses of wood and non-wood forest products by Amazon forest dwellers*. *Unasylva* 186(47): 8-15, (1996).
- Fisher, R.J., Michael, V. and Nitiya, K., *People and forests in Asia and the Pacific: situation and prospects*. Asia-Pacific Forestry Sector Outlook Study; Working paper Series, Working Paper No: APFSOS/WP/27; Forestry Policy and Planning Division, Rome, Regional Office for Asia and the Pacific, Bangkok, (1997).
- Khisa, S.K., *thno-botanical Cultural Background of Ethnic Communities in Forest Resource Management in Chittagong Hill Tracts*. In: Banik, R.L.; Alam, M.K.; Pei, S.J.; Rastog, A. (eds.): *Applied Ethno-botany*. Bangladesh Forest Research Institute, Chittagong, Bangladesh. pp. 56–63, (1998).
- Teklehaimanot, Z., Mustafa, M.M. and Hall, J.B., *Farmers' Ecological knowledge about Home garden Production systems in Bangladesh*. *Forests, Trees and Livelihoods* 11(1): 67-79, (2001).
- Vedeld, P., Angelsen, A., Boj , J., Sjaastad, E. And Kobugabe, G.K., *Forest Environmental Incomes and the Rural Poor*, vol. 9. Elsevier, pp. 869–879, (2007).
- World Resources Institute., *The Wealth of the Poor: Managing Ecosystems to Fight poverty*. WRI publication (2005).