

Full Length Research Paper

Are minor forest products truly ‘minor’ in forest fringe social life?

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A number of forest communities have been living in forest fringe areas of the south-western part of the state of West Bengal, India for centuries. From this dry-deciduous *Sal* (*Shorea robusta*) forest area, forest villagers collect forest products for their daily household needs as well as they also sell a proportion of products at the local market. In socio-cultural life of these forest communities, the surrounding forest has a great impact. Minor forest products or non-timber forest products (NTFPs) are used for medicine, worship, decoration, jewellery, food, fodder, firewood etc. As the physiography of the region is not suitable for agricultural activities and the irrigation system is not developed enough, the surrounding forest plays a significant role in forest livelihoods. Nonetheless, the uses of NTFPs in the social life of these socio-economically deprived communities (mostly tribal and/or indigenous) are quite apparent. NTFP producing plants are worshiped in different seasons, particularly prior to the harvest of products to ensure future supply. Different forest communities celebrate several social, religious and cultural festivals where forest and forest products are inevitable. There are some sacred groves found in the study area from where forest dwellers do not collect any forest products for daily household needs or commercial purpose. Therefore, these areas are quite uninterrupted compared to surrounding forests. How the importance of forest products in daily life makes forest dwellers aware about the conservation of the native forest is the theme of this paper. To explore the forest-based knowledge of aboriginal native dwellers, a number of socio-cultural issues have been addressed in the current study. For the collection of primary data and information, a number of qualitative methodologies including questionnaire survey, interviews, group discussion and direct participation and observation techniques were used. To crosscheck the findings from primary data some secondary sources were also referred. Among other sources, state and central government annual reports, previous research and project reports, related journal papers and newspaper reports received priority.

Key words: Non-timber forest products, forest dwellers, culture, forest conservation, India.

INTRODUCTION

The nature of the forests of West Bengal, India varies considerably from one place to another (Roy, 1993). In northern and southern West Bengal, the forest is very dense, whereas, in the south-western part of the State including the districts of Purulia, Bankura and West Midnapur, the forest is scattered (Department of Forest, Government of West Bengal 2005). That is why, most of the reserved forests, as well as wildlife sanctuaries, are

either located in the northern or extreme southern part of the State. As the activities of forest fringe dwellers are restricted in reserved forests and sanctuaries, disturbance in these areas is also limited (Yadav and Roy, 1991). On the other hand, in the southwestern part of the State, where scattered protected forests are concentrated, forest dwellers or tribal are allowed to collect forest products for their livelihoods. Therefore, the



Plate 1. The miscellaneous forests of Purulia (right) and *Sal* dominated scattered forest of West Midnapur districts.
Photo: Ghosal, S.

protected forests of the districts of Purulia, Bankura and West Midnapur are under constant pressure. "...in reserved forest most of the activities are prohibited while in protected forests some activities are permitted unless it is said that you cannot do it. Therefore, in protected forest people are collecting forest products without any difficulty.... That's why these are more fragile" (Additional Principal Chief Conservator of Forest (APCCF), Govt of West Bengal, interview – 23rd October, 2008).

According to the Additional Divisional Forest Officer (ADFO) of Bankura South Forest Division (interview, 7th of November, 2008), "it is very tricky to identify how many forest communities are reliant on forest products harvesting in the districts of Purulia, Bankura and West Midnapur" (Plate 1). Their level of dependence varies too from one place to another and seasonally. The socio-cultural way of living and relationships with the surrounding forest also controls their dependence on forest products (Bhakat and Pandit, 2003).

To determine the significance of minor forest products or NTFPs on forest livelihoods of this area, it is essential to investigate the value of NTFPs in the socio-cultural life of forest communities. According to Malhotra et al. (1998, p. 167), "forest products are numerous and available seasonally. Their collection and pattern of their use varies with socio-cultural and economic condition of each household".

However, little research has been done to examine the value of NTFPs in forest fringe social life in India. This paper enlists various uses of NTFPs in forest fringe socio-cultural life and subsequently focuses on how the uses of minor forest products generate awareness among native villagers to save their surrounding forest for

future. The study of the uses of NTFPs in forest social life will help the Forest Department and other researchers to identify and authenticate the quantity and quality of minor forest products available in the dry-deciduous forest areas of West Bengal. This will ultimately help to determine the harvesting capacity of forest products from a certain area in a particular season. Scientific identification will also be useful to control the over exploitation of minor forest products. The approach will subsequently protect the native forest biodiversity. Therefore, the more we become familiar with the usage of minor forest products in forest social life, the better we can comprehend with the features of available forest products and the native forest biodiversity.

Objectives of the paper

The objective of the paper is to highlight the forest dwellers' dependency on forestry, particularly on NTFPs to accomplish their household requirements. The knowledge development associated to the socio-cultural life of forest dwellers can facilitate to determine the availability of NTFPs in the dry-deciduous forest area of West Bengal. The quantity, quality and the uses of NTFPs can be registered through the extensive study of the uses of NTFPs by forest dwellers for their socio-cultural purposes. The appropriate registration of NTFPs can help the Forest Department to regulate the harvesting and marketing of NTFPs through recognized channels. Thus, the exploitation of forest and forest dwellers by intermediaries, who are mostly controlling the informal marketing channel of NTFPs in West Bengal,

can be controlled. Eventually, the destruction of dry-deciduous forest covers of these three districts will be under control.

NTFPs and their social importance across the globe

Due to the increasing economic value of NTFPs, researchers from around the world belongs to different subject areas are becoming interested to scale the value of these products from different perspectives. The environmental, economic and socio-cultural importance of NTFPs have long attracted environmentalists, economists and social scientists to enrich the forest related knowledge base (Keeling and Phillips, 2007; Kerr, 1991; Khare and Rao, 1993). More than 1 billion [especially forest] people all over the world depend on NTFPs or minor forest products for their daily household needs including social as well as cultural purposes (Turner, 2001). According to Turner (2001, p. 66), only in North America, "in all, over 500 plant and fungus species are known to have specific cultural applications among aboriginal peoples of north-western North America, and most of these are forest species." Emery (1998) focused on the social values of specialty forest products (SFP or NTFPs) and how „large scale commercialisation“ of these products is having an adverse effect on rural livelihoods of North America. For this she divided the social values of SFP (NTFPs) into three categories such as „livelihood“, „cultural“ and „recreational“. According to Emery (1998, p. 25), "Livelihood values are derived from both non-market and market uses. Cultural values include the continued ability to observe special practices and transfer knowledge from one generation to another. Recreational values combine the peace and pleasure of being outdoors with a practical and useful activity".

However, Steinberg (1998) has found during his research in Mopan Maya of Southern Belize that indigenous agro-forestry practices are changing with cultural changes at the grassroots level. This is also reducing the diversity of the „biological landscape“. Whereas, Pulido and Caballero (2006) noticed during their research on the Yucatec Maya of Mexico that the harvesting of different kinds of NTFPs by the natives for their day-to-day social uses reveal lots of information and knowledge about these products as well as the native biodiversity of the surrounding forest covers. The knowledge base that reveals from the social uses of NTFPs by indigenous people may facilitate to produce suitable forest management policy for future. It is, however, quite difficult to use an analogous policy even within the Amazon, Congo or south-east Asian tropical forests because of the diverse nature of forest and forest-people relationships. Therefore, micro level research is becoming essential for the intensive study of social forestry at the grassroots level for sustainable forest governance (Myers, 1988).

METHODOLOGIES AND THE STUDY AREA

For the collection of secondary data and information, Forest Department's annual reports, previous research and academic works, related journal papers were followed; whereas, for the primary data collection an extensive fieldwork was conducted in Purulia, Bankura and West Midnapur districts of West Bengal, India. These three districts were selected for the field level survey because of the presence of open dry-deciduous *Sal* (*Shorea robusta*) forests where a considerable number of indigenous communities are surviving based on forest products harvesting for centuries. The census data, land cover-land use maps, and topographic maps were referred for random sampling for the selection of households during questionnaire survey.

During fieldwork, elite interviews (10), semi-structured interviews (18) and group discussions (10) were organised with Forest Department staff, forest community members, local merchants, intermediaries etc. A questionnaire was also used for the household survey. Questionnaire survey was conducted with 180 households who were based in 11 different forest fringe villages of the districts of Purulia, Bankura and West Midnapur. Villages were selected based on the geographical location, distances from forest and nearest market, dependency of villagers on forest products harvesting for household and commercial purposes, occupational structure of forest dwellers etc. Male, female as well as child members were also encouraged to participate in interviews and questionnaire surveys. Age-sex ratios always received priority during interviews. Apart from these methodologies, to generate firsthand knowledge and experience, participatory appraisal and participation and direct observation techniques were also used.

THE FOREST SOCIO-CULTURAL LIFE AND NTFPS

Indigenous socio-economically deprived communities have been living within the vicinity of forest covers for a long time in the south-western part of West Bengal and are dependent, to a lesser or greater extent, on forest resources for their day-to-day requirements (Das, 2005). They are born and brought up in the forest and the impact of forest on their cultural, social and economic life is quite noticeable (Chowdhuri et al., 1992; Malhotra, 1998). The Deputy Director in Charge of the Regional Office of Forest Survey of India, Eastern Region mentioned in his interview (interview, 21st October, 2008) that, "...they [forest dwellers] are the part of forest ecosystem. If we want to know about forest and forest products, we have to be familiar with social life of forest communities. Forest dwellers life, culture and ethnology is associated with surrounding forest. Therefore, they worship forest. They manage their livelihoods from the forest. And whatever livelihoods they earn from the forest that is basically nothing but the NTFPs. Be it flowers, fruits, seeds or any other forest products. Whatever NTFPs that we, Forest Department staff know from the record, they are basically recorded from the social uses by these forest communities".

From dawn to dusk, forest villagers use NTFPs for several household requirements (Yadav and Roy, 1991). Therefore, their social life is often structured by the

availability of forest resources. That is why, the more can be learned about the uses of NTFPs by these villagers, the more appropriate the policies developed by the State Forest Department are likely to be. NTFPs are used here as food, fodder, medicine, decoration, household necessities and other purposes (Malhotra et al., 1992 and 1998; Roy 2003).

The use of numerous plant species for medicinal purposes is widespread amongst forest dwellers. Normally, if forest villagers get any physical problem, their first port of call is the *Vaidya* (local doctors that make *Ayurvedic* medicine) rather than a qualified (allopathic) doctor. The *Vaidya* makes medicine using a wide range of plant species, but they do not let common villagers know the composition of the plant species used to produce their medicines; otherwise their family business would be affected.

I collect different types of roots to produce medicine. Some types of fruits and barks are also collected to make medicine. However, I must not tell everything to other villagers or outsiders. It is because: me and my family survive on this business only. (Medicinal plant specialist, Gurahata village, Arsha range, Purulia district, interview – 26th September, 2008, the medium of conversation was Bengali and Santhali).

From the field survey, however, it was apparent that interior forest villagers (such as Bhuda village in Arsha range of Purulia district and Jamdaha village in Ranibandh range of Bankura district) use more NTFPs in their social life compared to forest fringe villagers (such as Sirkabad village in Arsha range of Purulia district and Barudi village in Ranibandh range of Bankura district).

Forest and forest products have many uses in various social events. As villagers in Bhuda village, Arsha range, Purulia district (group discussion, 24th September, 2008, the medium of conversation was Bengali and Santhali), described that, “*during marriage ceremony we make a temporary shade with different types of plant parts. In native language this is called ‘chamara’.* Mainly branches and leaves of *Sal* trees are used but at the same time *Mahua* (*Madhuca indica*) and *Sidha* (*Lagerstoemia parviflora*) plants are also used for this purpose. We also use *Amlaki* (*Emblica officinalis*) and *Bel* (*Aegle marmelos*) leaves for ritual purposes in regular basis as they do have their particular uses. We use *Tilai* (Plate 2), *Bhant* (*Clerodendrum viscosum*), *Jam* (*Syzygium cumini*) and *Amlaki* flower for different other ritual, social and household uses all round the year”.

They celebrate quite a few ritual performances in which forest and forest products always play crucial role. The worship of forests, rivers, hills and wild animals is a longstanding practice among these tribal communities. This is because forest communities believe that their

survival depends on the existence of forests, rivers, hills and wildlife. Forests are the main source of flowers, fruits and leaves for various social needs. Thus, before harvest, worshipping of that plant is a common practice.

We celebrate Jantal puja in the month of June-July when we worship forest-hill-river. During this time we collect different types of leaves, fruits and flowers which are entirely collected from surrounding forests. Apart from this, we also celebrate another religious festival in the month of April-May. It is known as Sarul. During Sarul we use new Sal leaves. Before this festival, nobody collects Sal leaves. Sal flowers as well as Sal leaves are essential for this festival... actually; we worship a Sal tree during this festival. Before this festival, we do not even eat mango. During this festival mango is an essential fruit. This time we also use Sal-gum - it is called ‘Dhuna’. However, presently Sal-gum is not widely available in the local forest. Sal-gum is purely collected for domestic uses (Villager, Bhuda village, Arsha range, Purulia district, semi interview, 26th September, 2008, the medium of conversation was Bengali and Santhali).

In the Sirkabad Forest Beat area, there are couple of tribal forest hamlets where the celebration of *Maghi puja* during January – February is quite common. After *Maghi puja*, forest dwellers make new thatch for their house. First, their priest (*Laya*) collects hay or dry grass or twigs (*Khar* grass) from the forest and makes a hut in a particular place in the village. Following that, villagers begin to make the new thatch for their houses. Some years ago, such grass was available enough in the local forest, but now it is inadequate. Therefore, many villagers use paddy-straw for thatching. It is because of the unavailability of such particular type of grass, the structure of houses for indigenous communities has also been changed. Nowadays, the construction of houses in tribal forest villages is quite similar to those in non-forest villages (Ranger, Arsha range, Purulia district, interview, 24th September, 2008).

Other important ritual celebrations are *Sohorai* and *Baha*. During the celebration of these festivals, different types of leaves, flowers as well as fruits are collected from the nearest forest. Before collecting new *Sal* leaves or any other important leaves, worship (called *Baha*) is performed. *Sal*, *Mahua* and *Kendu* trees are worshipped during this time (Villagers, Gurahata village, Arsha range, Purulia district, group discussion, 14th October, 2008, the medium of language was Bengali and Santhali).

Gender division in the harvesting of NTFPs in forest communities is common in the study area. In general, women and children collect leaves, fodder, firewood, rhizomes, tubers and roots (Plate 3). Men usually work as daily wage labourers. Normally men family members collect NTFPs including fruit, bark, roots and tubers when they do not get any work as wage labourers. Therefore,



Plate 2. For producing liquor *Mahua* (*Madhuca indica*) flowers are very popular in tribal communities of Purulia, Bankura and West Midnapur districts, whereas Tilai (right) flowers are used for worship by tribal forest dwellers of Purulia district. Photo: Ghosal, S.

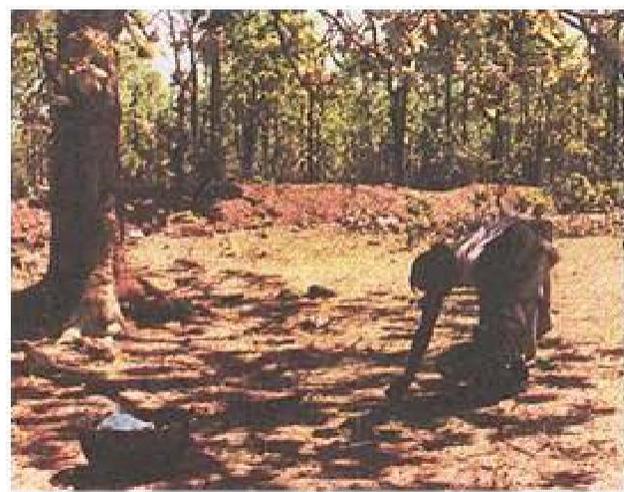


Plate 3. Tribal children and women collect fodder and different types of flowers and leaves from the native forests of Purulia, Bankura and West Midnapur districts. Photo: Ghosal, S.

collection of NTFPs is a secondary job for men, whereas, for women it is their primary source of livelihood. In West Midnapur district, normally *Sal* leaves and *Kendu* leaves are collected by women. In Purulia and Bankura districts, *Kendu* leaves and *Kalmegh* are mainly gathered by women as well as by children. It is because of the gender division in minor forest products harvesting, the female members have much more knowledge about the social uses of NTFPS than the men. During fieldwork for this research it was noticed that female family members could

contribute more knowledge about the uses and importance of NTFPs in their day-to-day social life than their male counterpart. Because of the scarcity of certain NTFPs, the kind of problems tribal communities are facing in their social life, female members discussed better than male. Therefore, female members often take much more initiatives to take care of the surrounding forest. According to Das (2003, p. 19), "rural women living in forest fringes are the major caretakers and users of forests. Each day they walk long distances to gather

fuel wood and fodder. They collect fruits, nuts and small creatures for food for their families. They also use bark, roots and herbs for medicines. Trees provide shade, beauty and environmental protection for their homes. Thus, trees and forests play a major role in their daily lives”.

Collection of NTFPs to fulfil all social needs is not an easy task for these communities. It is becoming time consuming as well as backbreaking as the number of plant species reducing with declining of forest covers. Except for a few NTFPs, which grow well in comparatively thin forests, reductions in forest area and density has been accompanied by a decline in the types and quantities of NTFPs available and it is true for all three districts where the research was conducted. As a result, many forest dwellers have been compelled to change their forest-based social lifestyle. According to the Director of National Afforestation and Eco-development Board (NAEB), (interview, 19th September, 2008), “...indigenous social lifestyle will change with time following its present trend. What life they are living till now is not easy at all and they also wish to get a better life.... Each and every society has „improved“ step by step with time and so they will also change one day and that is not very far ...”

During fieldwork, it was observed that the association between interior forest villagers and forests is stronger than between forest fringe villagers and forest. The socio-cultural linkages between forest fringe dwellers and local forests have declined in recent years: phenomena that seems to be true for all three Districts of the study area.

The socio-cultural features of a community are often determined by the surrounding environment (Chowdhuri et al., 1992; Malhotra et al., 1998). The culture of forest communities in the south-western part of West Bengal is no exception. The available forest resources have moulded the cultural life of these forest communities for generations. According to the Founder Chairman of IBRAD (interview, 18th September, 2008), “forest people are born in the forest they grownup [sic] in the forest so their lifestyle, their attitude determined by the surrounding natural forest. Their rituals related to birth, death or marriage is noticeably related with forest. They use several plant parts for ritual purposes. Plant parts are collected for food, edible oil, medicinal purpose, for making ornaments, for worship purposes etc”.

In the interior forest (particularly tribal) villages, the forest plays an intensive role in day-to-day social and religious practices; therefore, if the social customs of these tribal forest communities are studied carefully a great deal of knowledge about a number of NTFPs will be revealed. From birth until death, the uses of different kinds of NTFPs for different purposes are not only an amazing source of information, but also give lessons about the indigenous practices of forest governance for future. The villagers of Jamdaha village in Ranibandh

range have shared their views about the importance of NTFPs in their social life and why they should protect their surrounding forests to maintain the supply of required NTFPs for social needs.

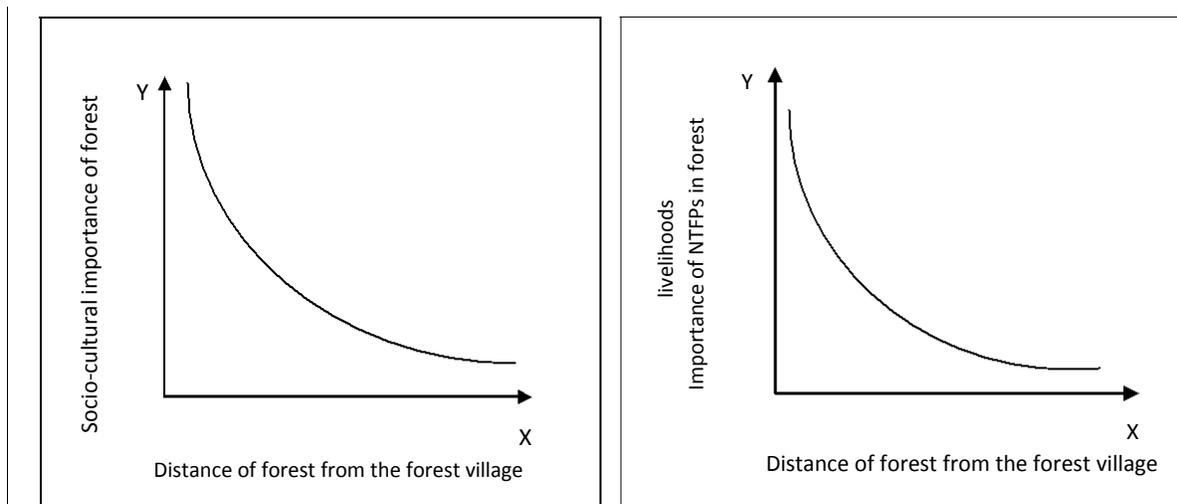
To purify a new-born baby some NTFPs are used such as neem leaf, sal leaf etc. During the marriage ceremony, forest communities use branches of Jam (Syzygium cumini) and Sal. Mahua leaves and flowers are also used for marriage. Liquor, cosmetic and some aromatic commodities are manufactured from Mahua and some other flowers along with different kinds of NTFPs (Villagers, Jamdaha village, Ranibandh range, Bankura district, group discussion, 27th October, 2008, the medium of conversation was Bengali and Santhali).

The purposes and use of NTFPs in these forest communities is sometimes distinctly different to the normal uses of NTFPs by outsiders. For example, outside the forest, *Sal* leaves are mainly used for plate making, whereas in the cultural life of interior forest villages, they have many other uses.

As *Sal, Mahua, Karanj, Kusum* and some other plant parts have numerous uses in forest social life; therefore, these plants are widely worshiped in all three districts. A culture of protecting these particular plant species has grown up among forest communities in different ways. For instance, one community may worship a plant species through some social practices, whereas, the other community (even within the same district) may take care of the same species through some other practices. However, the purpose of these practices are same, to protect the plant species for future supply. They try to follow these practices at all costs. They normally do not collect newly sprouted leaves, flowers and fruits until worship are being performed. This is just to maintain and assure the future supply of such plant species (Ranger, Arsha range, Purulia, interview, 24th September, 2008).

The main tribal communities of these three districts are *Santhals, Oraon, Munda, Bhumiz, Kaora, Mahali, Kheria* and *Malpahariyas*. Of these communities, Santhals have got specific attachment to some of the plant species. They consider those certain plant species as very important and try to resist any action organise to cut, remove and/or replace the same by other kinds of species in the surrounding forest. Fruits and flowers of trees like *Mahua, Karanj, Kusum, Sal* etc are collected by Santhals not only for the daily consumption, extraction of edible oil and to generate some other secondary products, but also for some specific social uses which no other tribal communities in fact known about. This is also true for other forest communities. Forest villagers have got an inherent tendency to protect their traditional knowledge about the specific uses of some particular plant species (Forest Survey of India, 1985, p. 11).

Until now some forest areas are considered as sacred



Graph 1. Variations in the dependency on NTFPs for socio-cultural and household economy purposes with forest-village distance.

Source: Based on field survey including interviews and group discussions with forest dwellers, participatory appraisal and participation and direct observation.

places, from where the collection of any kind of forest product is prohibited. Forest inhabitants believe that the God of the forest lives in these sacred places so they should not disturb these areas. They believe, disturbing the forest God may result in destruction of the forest (Bhakat and Pandit, 2003; Gadgil and Vartak, 1975). Forests are also protected to ensure sustainable forest livelihoods and grazing of the livestock. Normally, if forest dwellers need any medicinal plants then only they collect from these sacred areas, as they believe that forest Gods have bestowed their blessing on these plants species. Therefore, these areas have largely been protected. Such a sacred grove is found at Chilkigarh area in Jamboni block of West Midnapur district.

Sacred groves are tracts of near-virgin forests, the vestiges of an ancient practice in which people protected forest patches. "A repository of medicinal plants.... Sacred groves are small patches of native vegetation traditionally protected and managed by local communities. Named differently in different parts of India, these groves are mainly found in tribal dominated areas and managed by local people for various reasons. ... Sacred groves, in general, act as a nursery and storehouse of many of the local ayurvedic, tribal and folk medicine" (Bhakat and Pandit 2003, p. 230).

At present, the State Forest Department is trying to reduce the pressure on forests by diverting forest dwellers to other occupations, whilst maintaining their indigenous culture. With the alteration in livelihood generation, the social lives of aboriginal forest communities are changing too. The following graph (Graph 1) suggests that socio-cultural and subsistence-related dependence on NTFPs declines with the distance of forest

villages from the forest area. However, the slope of the curve is quite gentle at this juncture. The purpose of forest products harvesting, even for social uses, varies considerably among those communities which are residing within the forest area than those who are at the outskirts. With the improvements in the socio-economic status of forest fringe communities, the level of forest dependency is obviously decreasing. It was even true for the remotest forest village in the study area.

DISCUSSION AND CONCLUSION

However, the research finding revealed that forest communities are still intimately associated with their surrounding forest for several purposes. For the management of forest resources in the study area, therefore, it is necessary to consider the forest-based social life. Without having a comprehensive description of NTFP based social life, it is hard to produce a suitable forest management policy for this region.

The Director of the NAEB (interview, 19th September, 2008) precisely mentioned that it is impossible and inappropriate to make the forest dwellers' life independent of forest products, as the day-to-day social requirements of minor products is still obvious among aboriginal communities of these three districts. The harvesting for commercial purposes, however, can be more organised, sustainable and controlled. Sustainability criteria for NTFP extraction needs to be researched and elucidated to forest villagers to avoid future forest degradation. Once it becomes clear how much and which type of product local forest people can collect from a particular forest

area in a year for their social needs and, if needed, to what extent for commercial purposes, then they can collect that appropriate quantity of product without destroying the resource base.

With time, the population in different forest communities has increased in the study area considerably. It was, however, good to notice that many of the forest dwellers from the study area are not anymore highly dependent on forest product harvesting for their social requirements. Presently, rather many of them are moving out of forest area for different kinds of jobs and shifting towards the uses of manufactured products as alternative for NTFPs. The use of NTFPs for medicinal purposes is also diminishing with the increasing uses of contemporary medical facilities. Even remote villagers can access modern medical facilities these days through the Block or *Panchayat* level medical centres. Where the setting up of permanent medical centres is difficult due to several geo-physical and political reasons, the state government has introduced mobile health services.

In the dry-deciduous forest areas of south-western part of West Bengal, however, NTFPs have an important role in forest social life from different aspect. Till date, the state Forest Department succeeded to enlist several forest resources from the uses by native villagers. This is helping to develop the knowledge base related to native forest biodiversity including the structure of floral and faunal communities. The knowledge related to forest and forest products have developed among forest communities for generations. Therefore, for the configuration of state's own sustainable forest governance policy, more academic research on such indigenous forest based social life is extremely essential.

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