

Socio-economic Importance of Bamboo among the Nagas of Nagaland

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ABSTRACT Bamboo is grown extensively in Nagaland and the socio-economic life of the Nagas revolves around the varied use of bamboo and its products. Beginning with the sharp bamboo blades prepared to remove the umbilical cord of a new born and even accompanying dead person with finely woven bamboo mats wrapped all over the body. It is also put to a number of uses. There is nothing about bamboo that can be discarded or treated as waste. Bamboo is found extensively all over Nagaland. It occurs as a predominant plant in portions of the districts of Dimapur, Peren, Mon and Mokokchung districts, while it is readily found mixed with other forest species in all other districts of the state. Bamboo being a fastest growing and highest yielding plant, its maintenance does not require much labour and is a source of livelihood to many people in the region. In the present time, it is being used as industrial raw material for pulp and paper, construction and engineering materials, health food, handicrafts etc. Taking into account the increasing demand of bamboo and bamboo products worldwide, it has enormous economic potential to generate employment opportunities for the weaker sections of the society. Thus, the present study looks into the utilitarian nature of bamboo as reflected from the social life of the Nagas and as a source of economy.

INTRODUCTION

Bamboo is more than a resource to many people in the rural setting of the country and north-eastern region of India in particular. The history of bamboo use in India is quite long and is believed to be as old as our forests. Some even go to the extent of stating that India is the original home of bamboos. Hindu Deity Krishna is associated with bamboo because his flute was made of bamboo. Further, there are evidences that the Buddhist monks who went to Japan from India to propagate Buddhism carried with them seeds of bamboos (Ghosh 2008). Bamboo, regarded as 'The Green Gold' of the 21st century is also known as 'poor man's timber' and 'Friend of the people'. India is the second highest bamboo producing country in the world next to China and also has the richest bamboo diversity in the world with 23 genera and 125 indigenous as well as exotic species (Verma and Bahadur 1980). It plays a vital role in the socio-economics of the rural population (Prasad 1990). The north-eastern part of India is considered as the "Bamboo Paradise of India" and is a treasure house of bamboo diversity harbouring 43% share of the total bamboo wealth of India. About 66% of bamboo resources of the country and 28% of the total bamboo area of the country are found in this region (Madhab 2003).

Nagaland is situated in the north-eastern region of India and agriculture is the mainstay of their economy. There has not been any detailed study made on bamboos in Nagaland, but currently around 22 species have been identified which are spread all over Nagaland. The predominant species found in Nagaland are *Kakoo* (*Dendrocalamus hamiltonii*), *Daloo* (*Teinostachyum dulloa*) and *Jati* (*Bambusa tulda*). They occur almost all along the lower belts in continuous strips of some length descending down to plains along the border with Assam. While *Kakoo* and *Daloo* clumps are characterized in moist localities along the *nallahs* and streams, *Jati* occupies better-drained sites. In more accessible localities along the roads, bamboos have been over cut while, in other areas they have been left untouched for many years (Government of Nagaland 2004). The growing of bamboo grooves have gained popularity in the recent times as demand for bamboo and cane products increased world over. They have an advantage of being a very renewable resource and can be repeatedly harvested thus forming sustainable source of raw material. Bamboo is also ecologically important as it helps to check soil erosion and reclaims degraded lands. Despite all these, lack of adequate efforts to preserve and promote bamboo output and higher rates of extraction is leading to depletion of this valuable resource in the region.

METHODOLOGY

This work is based on qualitative data obtained from both the primary as well as secondary sources. For the purpose of gathering primary information, observation was made on the utilitarian nature of bamboo. Information obtained from local bamboo traders and those involved in growing bamboo grooves, were key to the making of this study. The primary data was further supplemented from reports, articles, e-sources etc.

Social Aspect of Bamboo

The north-eastern region of India has a climate favouring bamboo outgrowth and bamboo is interwoven with the life of the people in this part of the region with certain meanings and cultural connotations. Bamboo is used extensively in making different items as required for domestic purposes, food, hunting, as items in life cycle rituals etc. Syiemleih (1995) in his work mentioned that the believers of Seng Khasi religion have a peculiar belief of hanging a bamboo basket fastened by strings and portions of sacrificial animals kept above the corpse which was suppose to serve as a food to the departed soul. The use of bamboo trunks to carry water from the mountains to the fields is found among the Nagas (Rizui and Roy 2006). Bamboo has age old connection with the Nagas and they utilise bamboo in almost all the activities of daily life. From the birth of a newborn till he enters into the grave, some fragment of bamboo is always present. They make houses of bamboo, use the young shoots as fodder, supplement their diet by using bamboo weapons and implements for fishing and hunting, cook by burning bamboo fuel, store water in bamboo containers, construct bamboo fences to domesticate animals and provide them with bamboo leaves as food etc.

The Nagas inhabited the forest and, exploited whatever the forest could provide them and bamboo being readily and easily available, it became a significant resource lending itself to multifarious use. When a child is born, it is considered a very special event and the umbilical cord that attaches the new born to the mother is removed with utmost care. For the purpose a tiny sharp blade made of split bamboo is used. Besides, they neatly wrap the umbilical cord with banana leaves and dispose it by burying on the

ground. The uses of such blades are considered to be quite effective in healing the wound while causing less infection to both the mother as well as the baby. Further, when a person dies, bamboo mats were prepared out of split bamboos and they were used to wrap the body of the dead. However many changes in relation to bamboo among the Nagas are observed at present and the use of bamboo mats and blades are losing its popularity and they are now replaced by modern day blades and wooden coffins.

The diets of the Nagas were simple and consisted of rice, meat, fish and vegetables. Preparation of food was simple and in most cases, meat, fish or vegetables were cooked only with salt and chilly or meat cooked with some vegetables. They also enjoy and flavouring the food with fermented bamboo shoots. There are three popular types of bamboo shoots and they are in the form of a juice and both wet and dry. The bamboo shoot preparation is not an easy task and they were made on special and specific bamboos involving several procedures. Bamboo shoot fermentation process is done during May to June, when new shoots are formed and the bamboo shoots and juice gets fermented within two weeks. In olden days the young shoots were stored in hollow internodes of bamboo with one end of the node removed and plugged with a leaf or a vat made of wood and covered with banana leaves. The juice is then stored in gourd shell or jar which was used as a container. For the purpose of longer storage, the fermented bamboo shoots were also dried in the sun. It is also prepared by pounding or slicing the young and tender bamboo shoots into small pieces. They are then placed put in a conical bamboo basket with the inner wall lined with banana leaves. Prior to this, a hole is made at the bottom tapered end of the basket and a pointed bamboo stick a little longer than the length of the basket is inserted in the hole passing through the centre for draining the juice. The basket is tied to a post, the upper portion covered with banana leaves and stones are placed above it as weight. The stick passing through the centre of the basket is turned/ twisted from time to time to ensure proper drainage of the juice that comes out from the ground bamboo shoots which is collected in a container.

Water, being a source of life its non availability for domestic as well as agricultural purposes could pose a serious problem to the Na-

gas. In the past, For this purpose water was collected in the early morning hours and stored in a locally made long cylindrical bamboo container known as 'Chuthi' in Lotha Naga dialect. This stored water lasts only a day which were used up mainly for cooking and drinking purposes. Drinking water and food were then served in bamboo made cups and bamboo plates respectively. Water was supplied to the fields by creating channels through bamboo pipes. The water arising out of natural springs and ponds nearby the fields were tapped through such channels which were further released for supplying water to the field. Today they are replaced by modern day steel and plastic containers and pipes respectively. Further, during the paddy harvest the seeds were dried in the sun on bamboo mats specially designed for this purpose. The use of bamboo as a building raw material was also very popular. In the past, the use of modern day building raw material such as bricks, cement etc, was not known to these simple people and the entire village was built on bamboo huts. For this reason there were many instances when the entire village was easily set ablaze on fire during enemy attacks. In addition, when the villagers leave for field it was left in the care of a trustable person from the village. This was done to check that no person would burn fuel in their kitchen besides serving the purpose of a protective barrier to prevent enemies from entering the village.

The Nagas were traditionally hunters and Naga men exhibit their hunting skill with great pride and honour. The Naga *dao* which were made on bamboo handles were used for chopping and cutting purposes. Fishing was done with bamboo baskets and fishing hooks tied to long bamboo sticks. Bows and arrows of various shapes and sizes were made on bamboo beam. The Chang Naga hunters use cross-bow which is a powerful weapon made of bamboo, wood, fibre and bone. It is made of a thick and strong bamboo beam, wider at the centre than the ends, held in a slot in the wooden cross-beam. The wooden cross-beam has a groove at the top on which the arrow rests. Towards the back of the cross-beam, a trigger assembly made of bone is used to hold the bow in tension as the bow-string made of fibre rope is held by the back of the trigger. The bow is held at arm length with both hands on the cross-beam holding it from below. When the trigger is pulled, the hook is depressed permitting the bow-string to propel

the arrow with great force. A good deal of strength is required to charge the bow as the bamboo beam is fairly thick and not easily bent.

During ceremonies and festivities the people like to express their joy through folk music and dance and it again revolves round the use of bamboo made costumes, ceremonial gears, traditional musical instruments etc. The Konyak Naga men wear a tight cane belt around their waists. These are made of half splits of cane wound around the waist in about seven or eight loops. The belt is worn by adults, and once it is put on, it is not removed until the man dies. The cane, due to constant contact with the body and body oils, becomes beautiful golden yellow in colour.

The Ao Nagas use a decorative ceremonial hat, which is cone-shaped. It is made in two layers, the inner layer provides the structure and the outer layer is mainly decorative. The outer layer is made from dyed strips of bamboo or cane, and decorated with yellow and black strips. The yellow strips may be bamboo or cane, but more often, they are the skin of an orchid stem, which turns bright yellow when dry. The red and black dyeing of bamboo and cane using natural dyes is the most significant aspect of these hats. The process of dyeing differs slightly from tribe to tribe. The Naga flute is one of the simplest instruments made of thin bamboo. It produces beautiful sound with different tunes. This bamboo flute is very easy to make. For blowing the flute, it depends on individual expertise. Another type of musical instrument similar to this flute is called 'Malen' in Ao Naga dialect, which is made out of paddy plant stump. Its making is easier than that of a bamboo flute. Its whole length is nearly four to five inches only and as big as a lead pencil. It is made during harvest time only.

Economic Aspect of Bamboo

Bamboo and its products were initially used for personal consumption and use with no motive to gain economic returns. But realising the increasing utility and demand of bamboo worldwide, the enormous economic potential in it had been uncovered in the region and it is now a popular source of health, security and income generation. India's size of domestic economy is currently estimated at 200 million rupees. The market potential of bamboo is estimated at 450

million Indian rupees which will increase to 26,000 million rupees by 2015, thus enabling five million families crossing the poverty line (Farooque et al. 2007). In Nagaland with increasing demand of timber and wood, bamboos can serve as an alternative to many of the forests products. Many People have started to preserve bamboo grooves and even grow them. An individual owning a bamboo groove is considered a rich man. Plantation is promoted on individual landholdings as well as community lands. Nagaland with 89% of its total geographical area under the ownership of private individuals and communities offers a unique scope for raising bamboo plantation.

The handicrafts made of bamboo have gained popularity both in the national and international market. It is an excellent raw material substituting wood products. The most important species of bamboo found in Nagaland are *Dendrocalamus hamiltonii*, from which the best type of splints for basket work are extracted, *Bambusa bambos*, best suited for house construction, *Melocana Bamboo Soides*, suitable for making floor and walls of a Naga house. Some species like *Bambusa balcooa*, *Bambusa bambos*, *Bambusa tulda*, *Dendrocalamus giganteus*, *Dendrocalamus hamiltonii*, *Melocana baccifera*, *Chimonobambusa callosa*, *Dendrocalamus hookerii*, *Dendrocalamus giganteus* are used as edible shoots. Bamboo shoots in different forms as wet, dry and juice is becoming a popular food item across the world. At present, over two million tonnes of bamboo shoots are consumed in the world annually (Yang et al. 2008). Statistics show that about 26.2, 435 and 426.8 tonnes of bamboo shoots are harvested annually in the north-eastern states of India (Bhatt et al. 2003, 2005).) The bamboo shoot processing units are located at Dimapur, Nagaland (900 tonnes/year) and Jorhat (200 tonnes/year) and Bongaigown, Assam (300 tones/year) and one in Aizwal, Mizoram (Nimachow et al. 2010). Bamboo shoot is a delicacy in the northeast region of India and among the Nagas of Nagaland in particular. The use of bamboo shoot in almost all the recipes as a preservative is quite common. Recent studies have found the presence of phenols, phytosterols and fibre in bamboo shoot which are health enhancing properties. They have high content of proteins, carbohydrates, minerals, fibre and vitamins and are richer in nutrient components than some of the com-

monly used vegetables. They are sold in the local market all over Nagaland and serves as a source of income generation for the rural settlers. However, it has not been able to figure much in the international market as steps have not been taken to exploit the immense potential of this valuable resource.

The Nagas are naturally expert basket makers and this skill is highly developed among them. However they do not devote their full time in making them and they collect them from the forests when they are a little free from the normal economic pursuits normally. The period during July to October are considered to be the best time to gather Split bamboo which is the usual material for obtaining both mats and baskets. Young bamboos of about a year old are preferred for the purpose and bamboos beyond three years old are likely to be brittle and less preferred. The selected one is cut with the help of a *dao* at a place where the internodes are longer. The bamboo is now cleared off the branches and leaves, if any, and then cut to the required lengths. Each piece is now split into bigger splints of about one inch in breadth. The bamboo is cut in such a way that the lower portion has no node and this portion is then split with the *dao* and finally broken off with the help of the hand. While breaking it off, bristles are formed at the base. They also prepare different kinds of armchairs, sofas, tables, cradles for babies, shields, hats, drinking cups, mugs etc. They are sometimes designed with painted stylized floral patterns or with human figures.

Numerous development initiatives in the Bamboo enterprise sector were also taken up in the state. It includes the setting up of Bamboo Resource Centre, Facilitating participation of Artisan and Craftsman in sales and exhibition, Training programme involving processing of bamboo shoot, handicrafts, charcoal production, furniture design etc. Bamboo roads, sheds well as marketing channels were also created. For instance Anaki bamboo cluster which consist of five villages under Mokokchung district supplies bamboo mats to Arunachal Ply Industries Ltd. Around 6000 mats per month at a price of Rs 50/- per mat are sold thereby generating monthly revenue of Rs. 3 lakhs for the villages. During 2006, 44 tons of bamboo shoots was arranged from Jalukie bamboo cluster through the VB-DCs and supplied to Nagaland Foods Pvt Ltd. During 2007, 37 tons of bamboo shoot was ar-

ranged through two SHGs and one VBDC from Dimapur and Jaluki and supplied to Nagaland Foods Pvt Ltd, Ganeshnagar and NFVP, Voila colony, Dimapur. Another bamboo shoot packaging unit was set up at Tuli (NBDA 2005). Nagaland Bamboo Resource Centre (NBRC) at Dimapur has been conceptualized and established as a centre of excellence for facilitating technology and information for resource and enterprise developments, creating awareness on the potentials of bamboo, building the capacity of bamboo farmers and entrepreneurs, house pilot demonstrative bamboo processing units for entrepreneurs to train on.

CONCLUSION

Bamboo resource is a valuable asset to the Nagas as reflected in their lifestyle since a very long time. Without utilising a fragment of bamboo, sustenance of life would not have been possible for them. Certain changes in relation to bamboo are also evident due to advancement in technology and others. Despite such changes it is interesting to note that a large number of rural populace still depends on bamboo and its products for domestic use and as an individual economy. And recognising the enormous economic potential it has, a planned, scientific and holistic approach to the cultivation and management of bamboos on sustained basis is essential for the restoration and rejuvenation of rural economy and the overall economic development of the State. The diversity of this fascinating plant further has to be conserved, not just for financial reasons, but also more importantly in the revitalization of traditional sciences and technologies. In a nutshell, one can say that bamboo is one of the means to improve the socio-economic status of the Nagas.

RECOMMENDATIONS

There is dearth of literature on the relationship between the people and the place of bamboo therein. Therefore, the present study is an attempt to address the integrated understanding of the place of bamboo among the Nagas. Research has to be expanded and bamboo deserves to be developed as an economic and environmental resource. Awareness and training programs initiated in the state are still at a nascent stage and have to be further enhanced to

uncover the hidden potentials of local artisans and craftsman. Policy initiatives are required in all inter-related fields of plantation, technology, industry, trade and financing. The very existence of man and animal in the region is also threatened by ecological degradation, and the development of the bamboo resource will greatly add to the environment, thereby, having great impact on the quality of life of the people.

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