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FOREST AND LIVELIHOOD: THE NAGA TRADITIONAL PRACTICE OF PRUDENT USE OF FOREST RESOURCES FOR A SUSTAINABLE LIVELIHOOD

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Abstract

The Nagas are one of the tribal communities from North-Eastern part of India. For the Nagas, forest is one of the most important resource systems which have nutritional, economic as well as social and cultural value in their everyday lives. As such, they are largely dependent on the forest and rely on the forest and its resources for their subsistence and livelihood. This has given rise to a well-structured practice of using the forest resources efficiently and ecological knowledge that is very much linked to an engaging day- to-day experience and survival needs. However, with the high demand for timber and Non-Timber Forest Products in the global market, what remains uncertain is how long can the Nagas resist the influence of commercialization of forest resources? In this context, the present paper focuses on the prudent use of the forest resources by the Nagas, which have helped them in conserving their forest as well as helped them in managing a sustainable livelihood. At the same time, it attempts to look

into the challenges and obstacles faced by the Nagas in terms of utilizing the forest resource for their subsistence and in their effort to secure a sustainable livelihood.

Keywords

Forest Resources, Sustainable Livelihood, Prudent Use, Traditional Practice, Naga

1. Introduction

Forest is an important source of sustenance and livelihood for millions of people across the world. According to Food and Agriculture Organization of the United Nation (2015), close to 1.6 billion People - more than twenty five per cent (25%) of the world's population – rely on forest resources for their livelihood. It provides all the essential necessities such as food, fuel wood, fodder, medicine, timber, raw materials and shelter and protection as well. At the same time, forest related activities such as the gathering of forest resources and trading these resources is an important source of livelihood income for many people, especially for the tribal and indigenous communities.

Livelihood, on the other hand, is generally understood as the means of making a living and sustenance. But it also encompasses the wider aspects of everyday reality of the people's lives such as people's living spaces, their economic spaces and income, food security, resources and knowledge and their way of life and culture. It deals with people, their resources such as land, labour, knowledge, money, social relationships, what they do with these resources and what impact it has on their access to the resources, creating and embracing new opportunities and how it influences their personal, social, political, and economic life. At the same time, livelihood also entails the risks and uncertainties that people face and the choices they have to make, thus, it concerns the question of how secure and sustainable the livelihoods of the people are.

According to Chambers and Conway, livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits for other livelihoods at the local and global levels and in the short and long term' (Chambers & Conway, 1992). According to Department for International Development (DFID), 'a livelihood comprises the capabilities, assets (including both material

and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain and enhance its capabilities and assets, while not undermining the natural resource base' (Krantz, 2001).

Different communities adopt different practices to secure their means of livelihood and have different approaches to it. They have their own ways and means, customs and practices that have enabled them to gain a sustainable livelihood. In view of this, the present paper discusses the implication of forest resources in the livelihood of the Nags. It focuses on the prudent use of the forest resources by the Nag as, which have helped them in conserving their forest as well as helped them in managing a sustainable livelihood. It also discusses the challenges and obstacles faced by the Nag as in terms of utilizing the forest resources for their subsistence and livelihood, and in their effort to secure a sustainable livelihood. The paper discusses the subject matter by incorporating field data collected from Waromung and Khonoma village and secondary data collected from books, journals, articles, Official records and Annual Reports etc.

2. The Nag as

The Nag as are one of the tribal communities living in the North-Eastern region of India. The Naga community comprises of the Aos, Angamis, Sema, Lotha, Kong yak, Chakhesangs, Yimchunger, Sang tams, Khiamniungam, Zeliang, Pochuri, Phom, Changs and many other sub-tribes, and each of these tribes have their own distinct language, customs, traditions, attires and political systems. Among the Nagas, the village is the largest unit, and it is held together by social, religious, economic and political ties. Each village has their own land, forest and water system with distinct demarcation and is under the governance of the Village Council or Village Chief. Agriculture is the main economy and forest constitutes as one of the main source of their livelihood. Moreover, for the Nag as, nature is their culture; the land, forest and water are not just a physical entity for them but they consider it as the source of life and a symbol of their identity and unity which holds the family, clan and tribe together (Long char, 1995). As such, the land and forest is owned and managed by the community themselves and is never sold to outsiders. And this has significant bearing in relation to the utilization and management of the forest and its resources.

Nagaland, the home state of the Nag as is a hilly region surrounded by rich forest and is

considered as one of the richest biodiversity hotspots in the world. Like all the other tribal communities, the nature of relationship of the Nag as with the surrounding forest encompasses an extensive spectrum of their life, where forest plays a major role in their overall social and economic life. They recognize it as a source of livelihood, providing them with all the necessities starting from food for their daily sustenance, medicine, firewood, timber, raw materials for their art and crafts, fodder for their cattle as well as shelter and protection. It also serves as the traction for a variety of their cultural and symbolic functions; as such, it is richly manifested in their culture, ethics, myths, legends, folktales, folksongs and dances. Also, the rationale that they are to a large extent dependent upon the resources from the forest accounts for the fact that they have an extensive knowledge about the local environment of the forest, terrains and the waters. They are quite adept with the flora and fauna, their local distribution and habitat preferences, life histories and their seasonal manifestations, behaviours and usages. Such Traditional Ecological Knowledge of the Nag as is deeply linked to their everyday needs and has helped them to utilize the forest resources prudently.

3. Area of the Study

Waromung is an Ao-Naga village that falls under Mooching district of Nagaland state, India. The village is divided into four *Mephus* or local residential units, namely, *Mongsen Mephu*, *Teyong Mephu*, *Chungli Mephu* and *Waromung compound* and has a total of 600 households with a population of 3000 (Waromung Village Development Board, 2011). On the other hand, Khonoma village is inhabited by the Angami-Naga tribe and falls under Kohima district. Khonoma was named as the first “Green Village” in India, in recognition of the conservational effort initiated by the people of Khonoma to safe-guard the environment and preserve the rich biodiversity of the village. It has a population of 2,500 people (Khonoma Village Development Board, 2011) and the village is divided into three local residential units called *khels*, namely *Merhumia khel*, *Semoma Khel* and *Thevoma Khel*. Each *khel* is occupied by different clans and sub-clans, and the *khel* is the unit on which the social, economic and political life of the village is based.

In both the villages, agriculture is the primary occupation and forest related economic forms an integral part of their economy. Other forms of occupation like teaching, nursing, road

labour, government employees and religious service as Pastorship has also been introduced. However, even those households employed in various non-agricultural vocations, engage in some or the other form of agricultural practice as a subordinate means of livelihood. In addition, the villagers engage in forest related economic activities such as collection of Non-Timber Forest Products, logging, basketry, weaving, hunting and fishing etc. The collected forest resources and products such as cane baskets, mats and wooden artworks are sold in the nearby local or regional markets. The villagers from Waromung either go to Mooching town to sell their goods or give it in wholesale basis to middlemen as the village is far-removed from urban areas, whereas the villagers from Khonoma sell their goods in Kohima, Dimapur, Piphema and Ghaspani. And for majority of these villagers, collecting and selling of forest resources is the only means of earning their livelihood income.

4. Forest Resources and Sustainable Livelihood of the Nagas

The lives of the Nagas are intricately woven around nature with the forest as the major base as they are dependent on the land and natural environment in which they live and work. They procure a large number of forest resources such as wild leaves and vegetables, fruits, flowers, seeds, tubers, mushrooms, honey, game meat and insects as dietary supplements; in addition, firewood, timber, fibres, broom grass, bamboos and canes, weaving and dyeing material, raw materials for their art and crafts and medicinal plants and herbs for traditional way of treatment are also gathered from the natural forest. Such forest resources are used for home consumption as well as sold in the local markets to supplement their livelihood income. Even in the past, when cash economy was not yet introduced in the land of the Nagas, their ancestors barter the resources from the field and forest with the neighboring villages, especially with their neighbors in Assam, for salt, clothes and other essential goods. Some of the forest resources that are collected and sold by the Nagas are given in the table below:

Table 4.1: Forest Resources Collected and Sold by the Nag as

Serial no.	Categories of the Resources	Names of the Resources
1.	Vegetables	Yam, Bamboo shoots, mushrooms, tree tomatoes, banana flower etc.
2.	Fruits	Fig, Walnut, Peach, Plum, Pears, Orange, Goose berry, Banana, Pine apple, Rasp Berry, Lemon, Jackfruit, Naga Tenga, Wild apple, Litchi, Lime, Passion fruit etc.
3.	Leaves	Fern, Leek, Indian Pennywort, Common Buckwheat, Meshing leaves, leaves of passion fruits etc.
4.	Spices	Pepper, Cardamom, Basil, Cinnamon, Clove, Mechinga seeds etc.
5.	Others	Herbs, Honey, Betel leaf and vines, Cane fibers, Ginseng, Dry wild flowers and Orchids, Broom grass, Game meat, Fish, Edible insects, Bamboo poles, Firewood, Timbers, Sands and Rocks, cane and bamboo baskets and mats, wooden artworks etc.

Source: Fieldwork, Waromung and Khonoma Village, 2012 – 2014.

The products mentioned above are collected and sold in the nearby local urban markets or when they are unable to go and sell, they sell it to the middlemen who buy from them at wholesale rates and sell it in a higher price in the market. Most of the products such as vegetables, fruits, leaves, spices and herbs are collected and sold by the womenfolk whereas men hunt for game meat, catch fishes, and chop and transport the firewood, timber and bamboos. And the money earned by selling such products is utilized for household expenses, clothing, children's education, medical bills etc.

Thus, the Nag as gain valuable socio-economic benefits from the forest, as such, they are well aware of the fact that they are dependent on the forest resources for their sustenance and livelihood and that their well-being is based on the long term availability of the forest resources. Such perceptions have influenced the Nag as to use the forest resources prudently and also to conserve them for the longer term. Thus, the prudent use of forest resources is traditionally practiced even to this day and violation of such practices entails penalty in the form of fines from the community. Some of the Naga traditional practices of prudent use of forest resources are as follows-

5. Naga Traditional Practices of Prudent Use of Forest Resources

5.1 Restriction against Misuse of Forest Land and Products

They do not use the forest premises for carrying out any illegal activities like drinking, gambling etc. And they collect only the required amount of produces so as to prevent the unnecessary wastage of the forest resources.

5.2 Felling of trees from the forest

While felling the trees for timber and firewood or clearing the forest for cultivation, they do not clear the forest completely but they cut only those trees that have grown sufficiently big and leave the smaller ones to grow. Also, the trees are never cut and uprooted completely, two or three feet of the tree trunk are usually left for new sprouting. This can be said to be a method of harvesting the forests, so that the forest and its resources are not destroyed.

5.3 Logging

Logging is a very profitable business and many of the Naga villagers engage in logging trade to earn their livelihood. But as the extensive logging was destroying the forest and its rich resources, they started to carry out logging under certain regulations. For instance, in Waromung village, cutting and transporting the timbers is allowed within a specific time period only, i.e., from the month of October to the following month of March, whereas in Khonoma village the villagers have imposed a total ban on logging for commercial purpose and they fell the trees for household firewood use and for construction purposes only.

5.4 Firewood and Bamboo Reserves

The Nag as also maintains firewood and bamboo reserves in the immediate surroundings

of the village boundary. Here, they plant and preserve naturally sprouting useful species and maintain trees and bamboos for domestic needs. This practice reduces the pressure on the forest and its resources since they get their daily requirement of firewood, poles and bamboos for house construction, raw materials for weaving baskets and mats etc., from the reserved area.

5.5 Agricultural practices and conservation of forest

The Nag as are aware of the crucial role of land, forest and water in relation to their agricultural system, thus they have adapted agricultural practices and methods which have helped them in maintaining their land, forest and water sources sustainably. Some of these methods based on their traditional agricultural practices are-

- The Nag as practice jhum cultivation also known as shifting cultivation, a system where they cultivate in a plot of land for two years and keep it fallow for 10-15 years. The practice of keeping the land fallow for 10-15 years gives enough time to restore the fertility of the soil, regenerate the vegetation and the forest, and maintain the stability of the land. Here, the distribution of field for operation is followed systematically turn by turn, so that the land and forest are sustained and proper ecosystem is maintained.
- While slashing/ clearing the forest for cultivation, they do not cut down or uproot the trees completely. If the trees are very big, they lobbed off the branches only and the rest of the trees are cut 8 cm above the ground. These tree stumps and poles helps in controlling soil erosion.
- The Nag as practice mixed cropping where leguminous cover crops like velvet bean, rice bean and soybean that have dense foliage are grown along with cereal crops like rice, maize, millet and Job's tears, as it cover and protects the soil from erosion, add biomass to the soil and improves the fertility of the soil and hence increase the productivity of the crop (Nagaland Environmental Protection and Economic Development, 1999).
- The Naga system of cultivation is organic as they do not use any chemical fertilizers. Farm yard manure like composted dung, green manure of shrubs, wild plants and grasses and forest litter, ashes of wood, husks, Alder and bamboo leaves are used to enrich the soil. And they grow crops that perform ecological function and various

other beneficial functions such as nutrient enriching, insect repellents, weed suppressing, nitrogen fixing and decomposing bacteria and a variety of other harmful organisms.

- They also plant trees along with the crops in their Jhum and Wet paddy fields and during the fallow period the forest are regenerated by allowing these trees to grow. For example, the people of Khonoma plants Alder trees (*Alnus nepalensis*) in their jhum fields and terrace fields as it improves the fertility of the soil by fixing atmospheric nitrogen into the soil, reduces soil erosion and yields large quantity of firewood and timber.
- The Naga farmers also practice Wet Rice Cultivation, where they plant not only paddies but fish fingerlings are introduced and harvested during September and October. And after harvesting the rice, they grow cash crops like potato, cabbage, carrot, garlic, tomato etc. The cash crops, fishes and various edible creatures from their paddy field is a good source of income for them as it fetches a good price in the markets.

5.6 Hunting

Hunting is a part of their tradition and constitutes as one of the important activity of their economic life because there is a high demand for the wild games meat as it is considered a delicacy and is also utilized for its zoo-therapeutic property. However, the community is conscious of the importance of the life of the wild creatures, so in order to check uncontrolled hunting and preserve the fauna, they do not hunt during the breeding season, especially the female species and the young ones. And, villages like Khonoma has imposed a total ban on hunting as rampant hunting has resulted in the rapid decrease of the wild life population and many rare and endangered species were also killed in the process. They have also made rules and regulations to penalize the offenders a sum of Rs. 3000 and the Khonoma Youth Organization (KYO) is entrusted to implement these rules and impose the fines whenever necessary.

5.7 Fishing

They do not use chemicals and explosives during fishing, instead they make use of natural products such as fruits, leaves, creepers, roots and bamboo traps to catch fish. Such traditional methods of fishing have helped in maintaining the water source, the aquatic flora and

fauna and prevent it from the hazardous effects of explosives and chemicals.

5.8 Prevention of Forest Fire

Forest fire is one of the main causes which destroy the forest and its resource. In order to avert occurrences of forest fire, they take preventive measures such as making proper fire-break before burning their fields by clearing the surrounding areas, and make sure that the cigarettes, match sticks and fire are put off properly in the fields and forest.

5.9 Collection of Minor Forest Products

Medicinal plants, edible fruits and leaves, tubers and roots for consumption as well as to sell and fodders for cattle and domestic animals, can be collected by anyone from anywhere. But the general principle is that they should not be wasted. Any destructive method invites censure or even punishment in the form of fines. In some cases, as in Khonoma village, in order to preserve the flora, collection of minor forest products for commercial purpose has been prohibited.

5.10 Traditional Practices based on Lunar Cycle

They also have a traditional practice of sowing the crops and extraction of forest products according to the lunar cycle. According to the waxing and waning of the moon, they observe 'good' or 'bad' days to sow and harvest their crops as well as to extract forest products like bamboo, timber, palm leaves, wild vegetables, honey bee etc. It is believed that the products extracted on the 'bad' days get attacked by insects and decay faster whereas those extracted on 'good' days do not. Such practice regulates the extraction and the unnecessary wastage of the forest produce (Aier & Changkija, 2003).

6. Challenges and Problems

In spite of their efforts to protect the forest and its resources by conscientiously utilizing it, the Nag as are confronted with numerous obstacles in their Endeavour for a sustainable livelihood some of the challenges and problems faced by the Nag as in terms of forest resource utilization and securing a sustainable livelihood are-

6.1 Depletion of Forest Resources

Depletion of forest resources due to deforestation is one of the biggest challenges that the Nag as are facing at present. The high demand for forest produces like timber as well as wood for firewood in the market and clearing of forest for settlement and cultivation as population

increases have resulted in large scale deforestation. In addition, the transformation from a subsistence economy to a cash economy and the fact that timber and Non-Timber Forest Products like bamboo, cane, game meat, medicinal plants etc., are a good source of income and the only source of earning for most of the villagers has resulted in the over exploitation of the forest and its resources. Consequently, there is large scale deforestation as a result of which many of the available forest resources are decreasing rapidly.

6.2 Decline of Traditional Ecological Knowledge

With the change and development in their society, their Traditional Ecological Knowledge is slowly fading away. Absence of written history and documentation of the Traditional Ecological Knowledge, changes in their life styles like introduction of employment in government and private sectors, modern educational system, conversion to Christianity, urbanization and introduction of modern methods often at the expense of the traditional knowledge have resulted in the decline of their Traditional Ecological Knowledge. The decline of Traditional Ecological Knowledge has a huge impact on the environment as well as on the livelihood of the community as the application of the modern knowledge and technology alone does not result in a productive or sustainable development and at times it ends up having adverse effects on the environment and their practices.

6.3 Lack of Marketing Linkages

Lack of proper marketing linkages is one of the main challenges faced by the Nag as. Since there is no proper linkage with outside markets and no specific prices fixed for selling and buying of the goods, marketing of the forest resources becomes a demanding task, so most of the produce ends up being consumed within the household or freely given away otherwise the goods gets spoiled and are simply wasted away. Furthermore, the middlemen take advantage of such situations and pay less for the produces. In this way the people end up losing their chances for a better livelihood opportunity. Related to this problem are two more factors-

6.3.1 Poor infrastructure and facilities

The bad road condition and lack of proper means of transportation makes it difficult for the villagers to transport the goods to the urban markets. Moreover, lack of proper facilities like market building and cold storages adds to the difficulty. As there is no proper market building they have to vend on the streets and side-ways and this becomes a problem especially during the

monsoon season because their goods get soaked in the rain and are spoilt and even they themselves gets drenched. Also, as there are no cold storage facilities to store the goods they give it away in wholesale price or sell it off in a much cheaper rate because if they cannot sell it off on the same day, all the goods, especially the vegetables, leaves and fruits, gets rotten and wasted.

6.3.2 Lack of good planning

There is no concrete planning on the part of the government for facilitating the sale of goods within or outside the state. Such lack of good marketing strategy on the part of the government results in the failure on the part of the government to support the people's livelihood and missed opportunities for the people to earn their livelihood.

7. Conclusion

The collection of forest resources for home consumption as well as for trading it for income forms an integral part of the Naga economy, as such, they are to a large extent dependent on the forest and its resources for their livelihood. The rationale that their lives and livelihood depends on the forest and its resources made them perceive the importance of the land, forest, rivers, the flora and fauna, and establish a reciprocal relationship where the forest provides them with their essential need and on the other hand, they protect the forest and its resources from wanton destruction and preserved it. Such interrelationship has been the base of their livelihood for ages. However, development and transformation of their social, administrative and economic scenario has brought changes that are affecting their livelihood strategies. And the Nag as are already facing pressures from various factors that are having an impact on their traditional practice for a sustainable livelihood. At present, a matter of great concern for the Nag as that leaves them in a dilemma is the problem of high demand for timber and Non Timber Forest Products in the market. With the increasing demand for timber and Non Timber Products, how long can the Nag as resist the influence of commercialization of the forest resources that is affecting their very survival and livelihood? What are the measures that can be taken to preserve their tradition of prudent use of the forest resources for a sustainable livelihood?

Initiatives by the Nagaland government such as conceiving good marketing policies to sell the forest resources, acting as a facilitator by establishing marketing linkages and better trade relations with other regions, providing better infrastructure and marketing facilities and support

in the form of financial assistance, programmers and projects for improving livelihood, can help the people to earn a decent livelihood without excessively exploiting the forest and its resources. At the same time, introducing community and environment friendly methods which are suitable to the local environment and from which people will get better benefit, documenting their Traditional Ecological Knowledge as well as educating the people about it and creating more awareness about the advantages of forest and its resources can aid the Naga communities to uphold their traditional practice of prudent use of forest resources, thereby helping them to preserve the forest and its resources and maintain a sustainable livelihood, which in turn will enhance their personal as well as social, economic and cultural life.

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