

## Indigenous Techniques and Practices for Management of Bio-resources: a Naga Experience

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### Abstract

Indigenous Peoples with centuries of their intimate links and relationship with nature has broad knowledge base on the complex ecological system. Their Knowledge, techniques and practices have come through prolonged series of observation and experiences transmitted from generation to generation. They have a clear perception on the bio-resource for generating ecological services and on which their entire life depend, that they have effectively developed a stake in managing and conserving the bio-resources in their surroundings. Nagaland with its total geographical area of 16,579 km<sup>2</sup> is situated in the rich Indo-Burman Biodiversity belt. For centuries, Nagas have been directly or indirectly dependant on the natural environment for sustenance. Even today they are known for their intimate link with environment that forms an inalienable part of their life. The proposed paper attempts to understand the techniques and practices used by the Nagas in the management of bio-resources as cause and effect functional relationships. It further delivers into the crucial role of the Indigenous Knowledge that form seamless part of their heritage thereby effectively managing and conserving the bio-resources of the state.

### 1. Introduction

Sustainable uses of bio-resources derived from its natural services are the basics of human well being. For century's human being strive to adopt and adjust to their surrounding environment while making the best possible use of all resources available for their own development through various ingenious ways. In the global biological resource management significant contributions have come from Indigenous traditional knowledge and wisdom that have continuously evolved from their intimate relationships with their environment. Such knowledge passed down knowledge from generation to generation has over the years become closely intertwined with Indigenous People's social and cultural way of life.

In spite of the years of extensive debate, policy makers, academicians, and environmentalist were contemptuous of the indigenous knowledge and viewed it to be unscientific and irrelevant. Rather, attention was focused on the modern scientific research for the conservation and management of environment. However, recent emerging perception is fast changing with the realization of the centuries of intimate relationship between environment, sustainability and their entire symbiotic system with the Indigenous People (Lanusashi Ikr and Martemjen, 2011). The Article 8(J) of the Convention of Biological Diversity (CBD) states *to respect, preserve and*

*maintain knowledge, innovation and practices of Indigenous and Local communities embodying traditional lifestyles relevant for the conservation and sustainable use of Biological diversity...* This is further strengthened by article 10(c) of the CBD on promotion of traditional knowledge and customary sustainable use and the adoption of Ecosystem approach as the framework for utilization of genetic resources (Handbook of the Convention on Biological Diversity, 2003). There is now a growing literature and general understanding that indigenous knowledge is more than just ancient and historical but a vital tool for sustainability of the global biodiversity.

Nagaland, located in the tri-junction of India-Myanmar and China is one of the eastern most state of North-East India. Nagaland, with the total population of 19, 80,602 (Statistical Handbook of Nagaland, 2011) has a geographical area of 16,579 km<sup>2</sup>. It represent one of the most crucial part of the Indo-Myanmar biodiversity belt characterized by mountainous hilly terrain clothed with dense evergreen forest that harbors wide variety of endemic species of plants, animals and micro-organisms. This region falls within eight mega biodiversity hotspot regions in the world. The warm tropical temperate climatic condition and ideal rainfall regime ensures abundant growth of variety of forest and rich biodiversity.



## 2. Materials and Methods

The study is based on the collected information from different primary and secondary sources. Questionnaires, interviews and discussion mostly with the communities based on grass root level. Besides these, books, journals, magazines, etc. were extensively consulted for the given theme.

## 3. Nagas and their Relationship with Nature

For centuries the Nagas were dependant on nature for their social, economic and spiritual development. Their holistic view towards understanding of the nature has helped them maintain a close balance between people and ecological needs in such a way that both are protected and preserved. The balance in the cosmic order was maintained through careful precautionary and ecological approach by absorbing taboo and totemic relationship with the nature (Bendangangshi, 1997). To Nagas, every forest, rivers and streams, hills, valleys and places are identified through unique individual names to the people, having its own significance and history (Martemjen and Lanusashi lkr, 2012). That their understanding of each of these natural element and ecological diversity can generate invaluable economic, social and cultural benefits and any permanent damage to any of such elements would have far reaching consequences for the survival of humankind. Hence, for the Nagas the nature is always considered not merely as wealth but life in itself.

Their indigenous techniques and practices towards biodiversity and its resources management stand rich in perception and precision which come from time tested experience. The development and upkeep of the village life and the care for environment is always within the purview of their traditional values, ethos and customs that was handed down for generation (Martemjen and Lanusashi lkr, 2012 ). Their deep sense of environmental ethos, beliefs and practices has helped in preserving their bio-resources in various ways at the same time they could effectively utilize the resources to meet their ends. Besides, they have a strong sense of physical and spiritual attachment with the nature, so much so that their socio-cultural and economic life revolves around their nature of which they are an integral part.

## 4. Indigenous Techniques and Practices on Management of Bio-resources

The Naga communities with a historical continuity of resource use practices acquire a deep knowledge base about the complex ecological systems with which they interact. The Naga region is not only a treasure trove of biodiversity but is also known for its rich cultural heritage. To understand the management of bio-resources in Nagaland, it is important that

the land and forest are not treated as separate categories (W.A. Longchar, 1995). This is because the people do not necessarily differentiate these two resources in their use-value and control. For Nagas, land is not only the asset or wealth but it is the source of life and is 'sacred'. Everything springs forth from the earth, the trees, rivers, flowers, fruits, grains and so on. Their indigenous technique and practice is based on critical principles which ensure its protection. Trees and other vegetation are not destroyed or felled unless they are required for specific purpose. Nagas have rich traditional medicine and healing practices which stand out as one of the most valuable asset for them. It has not only kept their traditional knowledge and healing practices alive but has helped conserve the bounteous medicinal plants and species (Lanusashi lkr and Martemjen, 2011). The lands are allowed to rejuvenate its fertility through the observance of rituals and taboos.

Observance of certain taboos enabled the people to protect and preserve the nature from rampant destruction. For instance, a man may not kill an animal or avoid hunting during the pregnancies of his wife for fear of befalling misfortune with his wife delivery or with the new born baby. A warrior or priest abstains from killing any animals while absorbing taboos. Also it is prohibited to kill any birds or animals during the breeding seasons. The same is applied for fishing, the use of certain poisonous roots and leaves that kill fishes in the rivers or springs is taboo during the spawning season.

It is also forbidden to cut certain trees which are considered 'sacred'. Trees like the banyan, peepul, oak etc. are protected throughout the land. Thick forests are believed to be the abode of spiritual beings and so, are left untouched. These are cut down only while in groups, never by the individuals, for it is believed that family of the defaulter will never prosper and will have a hard living at least for seven generations.

Although slash and burn system of agriculture is followed extensively throughout Nagaland, the peoples' priority is always to protect the forest ecology and to regenerate the ecological system for the coming phases of the cycle. For instance, trees were never uprooted even during cultivation and the offshoots that spring out from the stem were never cut. It is the universal understanding for the Nagas to ensure the standing trees in their jhum fields and also along the streams or rivers, thereby ensuring the speedy regeneration of forest and to safeguard other aquatic plants and animals in the rivers.

While collecting trees and bamboos it was very important that their activities are in sync with lunar and solar calendar. For instance, the cutting of timbers, bamboo, wood etc. for any kind of constructional work is done only during the full moon night or some specific days so that it remains pest free

for many seasons and years to come. On the other hand, the sowing of any kind of seed is never done during the full moon night time. For, the seeds sown during this time never grow healthy. The different agricultural activities are ascertained from the movement and chirping of different birds. For example, the chirping of the cookoo birds heralds the ideal season for sowing seeds and plantation of various crops. The Indigenous knowledge and practices of medicines is one of great antiquity and continues to serve as an invaluable service to millions of people even in this scientific age. The use of common medicinal plants is known to almost all the members within the Naga community though only certain people possess deeper knowledge of medicinal and healing gift that can even deal with the life threatening ailments affectively.

For the Nagas their ethos of integrating and attachment with the ecology is so strong that most of their folksongs and folklore expresses their love and appreciation for nature. Even in the present days, throughout the year the farmers and people in the village would invoke the blessings of nature or welcome the advent of seasons etc (Lanusashi lkr and Martemjen, 2011). Their strong perception of the living environment and human being as an inalienable part of the nature has not only helped them understand the nature but to sustainably manage and co-exist harmoniously with the nature for centuries.

## 5. Conclusion

Against the backdrop of the present indiscriminate use of biological resources through economic expansion and technological development on one hand, and the popular dominant view of the modern conservation system on the other, the indigenous knowledge, techniques and practices practiced by the Nagas can well serve as a catalyst for effective management and conservation of bio-resources where modern science fails to provide answer to the most crucial issue of conserving the global biological diversity that directly concerns future of Humanity.

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