

# Social Community of Sustainable Development in Northeastern India

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## Abstract

This paper presents a synthesis of grassroots activities designed to promote the learning and conservation of traditional knowledge and related traditions and cultural resources among the Adi, Monpa, Mog, Chakma, Tripuri and Khasi tribes of northeast India. The results indicate that the participation of knowledge holders in various village level activities can enhance the promotion of traditional practices, the learning of knowledge and the conservation of related resources. Knowledge holders of varying age groups and social systems have many notable traditional practices that provide promising solutions to current challenges. The promotion of traditional knowledge-based products can also facilitate the conservation of resources and the subsistence survival of people. Strong multi-level networks between all stakeholders are needed to ensure the sustainability of traditional knowledge and the conservation of traditions and cultural resources of communities of northeast India.

**Keywords:** traditional knowledge, Biocultural diversity, livelihoods, sustainable development, northeast India.

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### บทคัดย่อ

บทความนี้นำเสนอการสังเคราะห์กิจกรรมของคนรากหญ้า โดยการออกแบบเพื่อสนับสนุนการเรียนรู้และการอนุรักษ์ความรู้ท้องถิ่น และประเพณีที่เกยข้องกัน รวมทั้งทรัพยากรทางวัฒนธรรมของชนเผ่า อาทิ มอนปะ มอก จักมา ตริปุรี และชาลี ทางภาคตะวันออกเฉียงเหนือของประเทศไทย ผลการวิเคราะห์ระบุว่า การมีส่วนร่วมของผู้ทรงความรู้จากหมู่บ้านต่างๆ ในหลากหลายกิจกรรมทำให้เพิ่มความรู้และการอนุรักษ์ทรัพยากรต่างๆ ผู้ทรงภูมิรู้ทั้งหลายมีหลากหลายอายุ กลุ่มและระบบทางสังคม มีการปฏิบัติเชิงจารีตนิยมที่เด่นชัดหลายกรณีที่มีแนวทางพอที่จะแก้ไขต่อสิ่งท้าทายปัจจุบัน การส่งเสริมผลิตภัณฑ์จากความองค์ความรู้ท้องถิ่นช่วยให้เกิดการอนุรักษ์ทรัพยากรและการยังชีพของประชาชน เครือข่ายหลายระดับที่เข้มแข็งระหว่างหุ้นส่วนทั้งหลายจำเป็นต้องสร้างความยั่งยืนของความรู้ท้องถิ่นและการอนุรักษ์ศิลปวัฒนธรรม และทรัพยากรทางวัฒนธรรมของชุมชนทางภาคตะวันออกเฉียงเหนือของอินเดีย

**คำสำคัญ:** ความรู้ท้องถิ่น, ความหลากหลายทางชีววิทยา, การเลี้ยงชีพ, การพัฒนาที่ยั่งยืน, ภาคตะวันออกเฉียงเหนือของอินเดีย

### Introduction

Traditional knowledge is a body of knowledge accrued within a group of people across generations of close contact with nature. It is a local and cumulative body of knowledge, practices and beliefs held by local people. It evolves through adaptation to local environmental circumstances, and is handed down through generations by different forms of cultural transmission. It may contain knowledge and practices concerning food, medicines, hunting, fishing, agriculture, home gardening, handicrafts and other skills developed to sustain the local population. Traditional knowledge and biocultural diversity are interwoven with each other and can be essential components to ensure the sustainable development of communities living in mountain ecosystems. Biocultural diversity comprises the variability of biological species and ecosystems, and the distinctiveness of cultural groups who interact with these resources. Despite the importance of traditional knowledge, however, the erosion of this knowledge base has been observed in many communities across

different countries due to socio-political changes and development pressures, marketisation and commodification. It is important to assess the value of biocultural diversity and associated traditional knowledge in relation to learning and conservation whilst protecting the intellectual property rights of communities. The growing need to conserve traditional knowledge and biocultural diversity is now widely recognised and of growing concern (Community Based Sustainable Natural Resources Management and Development in Northeast India, 2009. 96).

The northeastern region of India is considered one of the most bioculturally diverse regions of India. Diverse communities, traditional agriculture, governance of resources through indigenous institutions, a high degree of forest dependency, and the use of ethnic foods and medicines have resulted in a rich heritage of culturally-embedded traditional knowledge. This has the potential not only to protect biodiversity and ecological functioning but also to sustain the cultural diversity of northeast India. The women in this region are major stakeholders and custodians of knowledge, conserving food and medicinal plants in both hill (jhum) land and home gardens. Working with and studying tribal women can advance our understanding of community traditional knowledge, including its typology and status among different age and social groups. It can also facilitate the development of sustainable technologies and products and could contribute to sustaining the biocultural resources and livelihood systems that persist.

Despite the rich knowledge of women, and their role in conserving biocultural diversity as experimenters, conservators and stabilisers of foods, medicines and other indigenous resources, their contribution is rarely recognised at the policy level. Moreover, centrally formulated policies and technologies on resource conservation have tended to be implemented without due recognition and participation of local people and their indigenous institutions. Governments have rarely played a significant role in assessing the erosion of traditional knowledge, including implications for the conservation of biodiversity and the livelihoods of tribal people.

### **Ethnography of areas**

The Northeast in India, the seven sisters state, consists of Assam, Arunachal Pradesh, Nagaland, Tripura, Mizoram, Meghalaya and Manipur. Its 2000 km perimeter borders with Bhutan, China, Myanmar and Bangladesh. India by a narrow 20 km wide corridor of land. The Northeast region is one of the most bioculturally diverse parts of India, with each northeast state has a distinct culture and tradition. This region is the home to more than 166 distinct tribes speaking a wide range of languages, as well as a diverse range of habitats for thousands of species of flora and fauna.

Meghalaya state is bounded on the north by Assam state and on the south by Bangladesh. The state has three major tribes, namely Garo, Khasi and Jaintia living on the western, central and eastern hills of Meghalaya. The Khasi tribe depends primarily on agriculture and forest resources for their survival. This community raises pigs, cattle, sheep, goats, poultry, ducks and undertakes fish farming, practises jhum agriculture (slash and burn agriculture) for the cultivation of local crops, while settled cultivation is the norm for the raising of horticulture crops (pineapple, banana, citrus, etc.) and long-duration paddy.

Arunachal Pradesh is a forbidding and formidable state of northeast India. It covers 83,743 sq. km with Bhutan to the west, Tibet and China to the north, Myanmar to the east and the Indian states of Nagaland and Assam to the southeast and south. The state is considered one of the richest and most biodiverse regions in the country, bestowed with a wide range of virgin forests full of diverse plant resources and indigenous crop species cultivated under jhum and in home gardens. The state is home to 26 tribes and 110 ethnic groups. Among them, the main tribal communities are Adi, Nyshi, Monpa, Tagin, Idu, Khampti, Tangsa, Nocte, Singpho, Mishmi, Miji, Wancho, Apatani, Aka, Sherdukpen, Khawa, and Hill Miri.

These tribes reside in the forest and depend heavily on it for their socio-cultural, food and livelihood requirements. Jhum cultivation is a widely practised farming system among most of the tribes of Arunachal Pradesh. This project focused on Adi and Monpa tribes in Arunachal Pradesh. The Adi tribe

practice jhum cultivation and depend heavily on forest resources using subsistence-based practices, including trapping and hunting. Rice, the meat of wild animals and a large number of wild plant species collected from the forest and jhum-land serve as their staple foods. The Monpa tribes are mostly found in the West Kameng and Tawang districts of Arunachal Pradesh. Monpas are Buddhists with close cultural and religious affinities with Bhutanese and Tibetans. Monpas depend on traditional agriculture with subsistence horticulture farming and conserve more than 32 indigenous land races for their subsistence. The economy of Monpas is agrarian-based, and indigenous institutions play a pivotal role in the governance and management of natural resources (Culturally important Dekang Indian Journal of Traditional Knowledge, 2009. 8).

In Tripura as per 2001 Census Mogh are 35,385 persons. Their major concentrations are at Subroom and Belonia. Mogs are Arakan tribe and migrated to Tripura through Chittagong Hill Tracts. By religion they are Buddhist. Their language is grouped under Tibeto-Chinese family, which has also linked with Assam-Burmese section of language. Mogs are depends on Jhum Cultivation. By nature they are no so much active for advancement of life. They have social Administrative social council. Chief of this council is called as Chowdhury. They cremate their dead after observing rites and rituals. Wah Festival is their annual meeting of whole community people. There is a combination of folk songs and dance during this festival. In fact Mog's social culture and belief are centralized with Burmese culture. Their folk tales and folk songs are really mind blowing and touches core of heart. Mog community by tradition famous for their folk medicine. Beside their normal economic activities some of them earn through indigenous treatment and medicine (Cultural and Spiritual Values of Biodiversity, 1999.12).

Tripuris are the largest tribal community in Tripura. They have first migrated in this territory and could be introduced as aboriginal tribe of Tripura. Numerically as per 2001 Census they are 5, 43,843 persons in the State and Tripuris numerically highest in number among all the tribal groups. Tripura was under rule of Tripuri Kings till it is merged with Indian Dominion in the year

1949. Ethnically Tripuris belong to Indo-Mongoloid origin and linguistically within the Tibeto-Burman family. They speak in Kok Borok as like as other 7 (seven) tribal groups of Tripura. Tripuris are mainly Hindus. Beside they have belief in different deities, rites and rituals traditionally followed by them from time immemorial. Garia, Kharchi, Ker are their main festivals.

They have colourful folk dances like, Garia, Lebang, Musak Surmani, Tangbiti and Mamita. These dances are invigorated with sweet melodies of folk songs and music of flute, Sarinda, Champreng and other string instruments. Once Tripuri society was controlled by the regional social councils, which had power to exercise on over all social and economic disputes among the community members. In fact the chief of these councils were selected by the then kings of Tripura. But due to democratic set up, now a days, these councils have no existence. All sorts of minor problems are worked after by Village Panchayet or by other Legal Bodies. Due to social transitions in all sphere of life particularly in the field of Agriculture, Socio-Cultural life, economic life, educational and health awareness, elite role etc. Tripuris are now treated as an advanced tribal community among the tribes of Tripura.



North East India



*Ethnography Areas*

*Figure 1: Map of study areas*

### **Establishment of traditional village bank**

The first systematic establishment of traditional village bank of northeast India was established in Assam, Arunachal Pradesh, and Tripura. This comprised a village level committee including male and female members of the village Panchayat elders. More than 100 traditional practices were explored relating to foods, medicines, agriculture, animal husbandry, handicrafts, cosmetics and the overall biodiversity conservation approach of the community. Traditional practices were documented in both hard copy and digital form and handed back to the establishment of traditional village bank committee after a village workshop. Scientists trained knowledge holder on how to manage the database, add new information, screen outstanding practices for value addition and refine traditional knowledge based micro enterprises.

Community members were trained in the use of prior informed consent before passing on traditional knowledge and biocultural resources to second parties and the importance of ownership of traditional practices. A group of women from silachari village have now village have formed a self-help group and they are processing outstanding traditional food practices that add value

in the local market. They are providing an empirical model of promoting traditional knowledge and conservation of biocultural resources combined with income earning (Ecoliterary Tool: Methodology and Approaches on Biocultural Knowledge learning and conservation, 2008. 9).

### **Establishment of community knowledge garden**

In northeast India various garden were established on private lands voluntarily donated by tribes. A total of 16 medicinally and culturally important plant species have been domesticated in the community knowledge garden of Dirang village setup by a well recognised knowledgeable man named Mr Lobsang. A total 26 of indigenous plant species of food, medicinal and cultural importance have been domesticated from the community forest and jhum lands in each of the two community knowledge gardens among Adi tribes of Sibut and Yagrung villages.

These community knowledge gardens are now being further used to domesticate rare endangered and threatened species of the region. For example, Hajachari of Dirang village has started a plantation of critically endangered tree species called mirangmose. Similarly, among the Adi tribes 12 knowledgeable people have started a plantation of culturally and medicinally important vulnerable tree species called Dekang in their respective community knowledge garden. The reduction in plant population is believed to be caused by commercial agriculture, degradation of natural habitats and lack of care for plant species by young generation (Conserving Biodiversity for Sustainable Development, National Science Academy, 1996. 16).

### **Traditional practices and tribal women of Northeast India**

A total of 724 traditional practices were identified by elder women of the Adi, Monpa and Khasi, Mog and Ckama tribes. This was despite the fact that the project ran for only two years with a total of 50 elder women. Comparing the explored practices of elder women with the young to middle-aged women's practices, it is important to note that the latter was obtained from a total



sample of 180 young to middle-aged women, suggesting that each elder woman knew significantly more traditional practices overall.

### **Biocultural resources in Adi communities: current losses and future use**

The workshops indicated that loss of biocultural diversity and related traditional knowledge are caused by a number of factors. Observant of the pace of the shrinking forest and degradation of related resources, one-third of women mentioned that they have started domesticating food plants such as onger, ogen, gobar oying *Amaranthus*, gen, koppi and koppir in their home gardens. Apart from food value, these species are medicinally important for curing various human ailments and diseases. Their objective in conserving these plants was to avoid travelling to the forest edges daily for gathering these resources and reducing expenditure on allopathic drugs.

The reduction in plant populations is believed to be caused by commercial agriculture (47.4%), degradation of natural habitats (31.7%) and lack of care for plant species by young generations (22.3%). By contrast, the reduction in animal populations was perceived to be due to the fall in traditional hunting and the increased trend of commercial hunting using airguns and pistols (Figure 5). The problem has been aggravated with improved communication and transportation to anterior forest locations. This has caused a change in food and nutritional security of the Adi community. Increasing modernisation and sedentary life have further reduced the physical activity levels of local people as stated by workshop participants. In earlier times, hunters walked 30–40 km over 7–8 hours of hunting, and in some cases stayed in the forest for 15 days. Women used to walk 4–5 km daily in search of ethnobotanicals used in their foods.

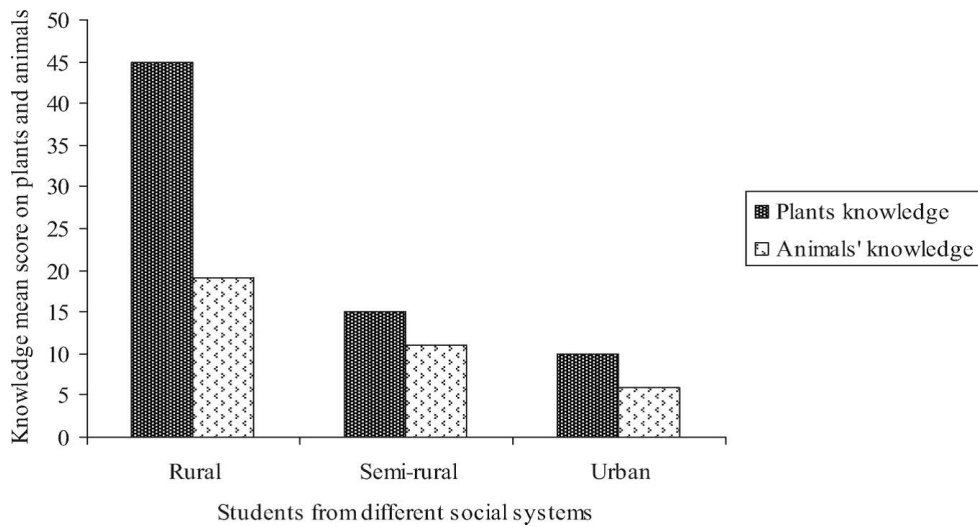


Figure 2. The knowledge difference about biocultural resources (plants and animals) among the students belonging to various social systems.

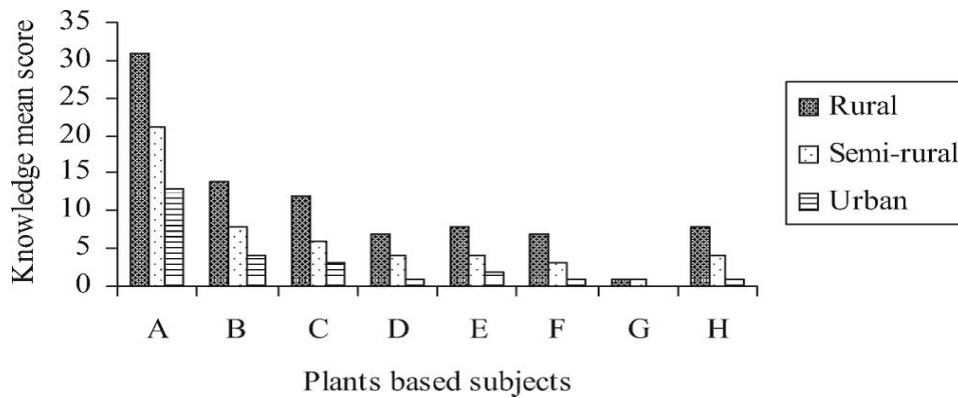


Figure 3. Knowledge status of school children about indigenous plants biodiversity.

Notes: A = Plants used in food; B = Plants used as medicine; C = Plants used as animal feeds; D = Plants used for religious occasions; E = Plants used in making handicrafts; F = Plants used in fishing; G = Plants used in hunting; H =Plants used to make various items for households use.

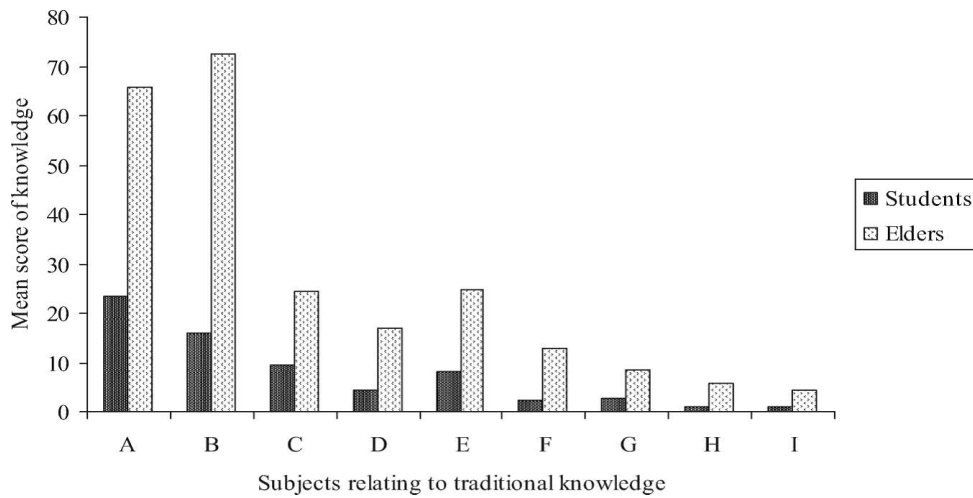


Figure 4. The knowledge difference about biocultural resources (plants and animals) between the younger generation (mean age 17 years) and elders (mean age 62 years).

Notes: ‘Z’ value 18.9; p 5 0.01. A = Plants used in food; B = Plants used in medicines; C = Wild animals used in food; D = Wild animals used in medicines; E = Aquatic biodiversity used in food; F = Aquatic biodiversity used in ethomedicines; G = Festivals and cultural occasions on plants and animals; H = Spiritual ceremonies relating to biodiversity; I = Rural social institutions that nurture knowledge and learning.

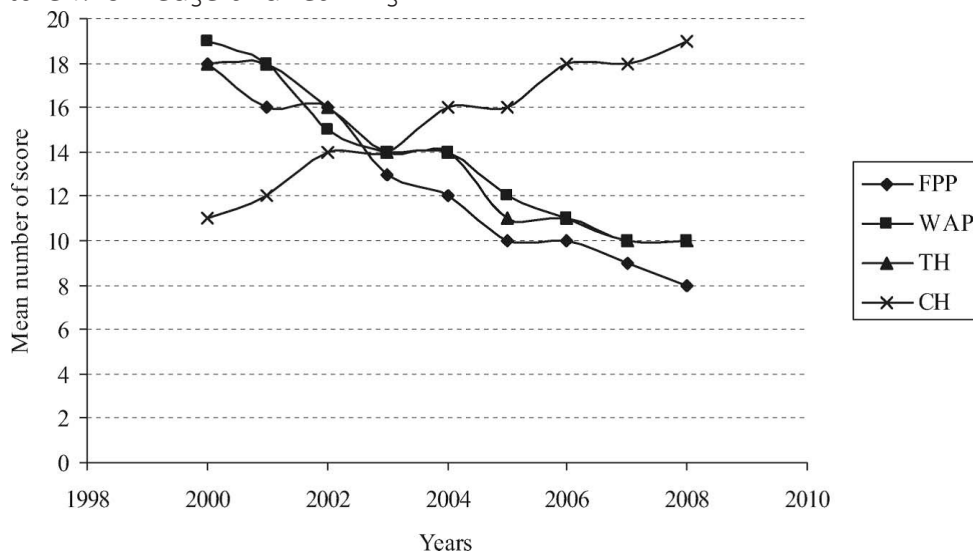


Figure 5. Trends of changes in food plants, animal population and the hunting system among the Adi tribe.

Notes: FPP= Food plants population; WAP= Wild animal population; TH= Tradition of traditional hunting using the Aconite ferox plant; CH = Commercial hunting using an airgun and pistol.

The scores for populations of plants and animals were generated following the participatory rural appraisal procedure. In this exercise, 25 members participated. Out of a score of 20 assigned to each item, the individual value has been generated in the focus group discussion.

### **Types of community knowledge and benefit sharing mechanisms**

The synthesis of activities carried out in the projects indicates that there are four types of knowledge systems among the knowledge holders. These vary according to attributes, types of problem-solving approaches and degree of transmission from one person to another. The benefits derived from these knowledge systems also vary. Whether refinement and validation of the respective traditional knowledge are required to make them more widely known among other non-user groups or not, the majority of participants indicate that they can be transferred to similar situations with little refinement and validation.

Since in most of the cases the practices are used and appreciated by the whole community and are found in the public domain. Most knowledgeable people from the more isolated villages want the maximum portion of benefits to be allocated to them through their customary institutions. In contrast, the knowledge holders from transitional villages Mirbuk, Mebo, Mirsam, Yabgo, Sibut, Miram, Yagrung, Balek and Gune suggested a different approach. They wanted the benefits of traditional knowledge to be directed through the village Panchayat. The reason for this was that the benefits directly enrich the social system and ensure equal resource rights among community members. They believed it would also promote a sense of co-operation among community members (Traditional Ecological Knowledge and Manging Biosphere Reserves in South and Central Asia, 2002.19).

### **Buddhist point of view**

The Buddha lived in a society entangled and confused by sixty-two divergent views and one hundred and eight types of craving. There were hundreds who went about in search of an escape from this entanglement of views. Once the Buddha was asked the question:

The inner tangle and the outer tangle -

This world is entangled in a tangle.

Who succeeds in disentangling this tangle?

The Buddha who explained that all these tangles have mind as the fore-runner, answered thus When a wise man, established well in virtue, Develops consciousness and understanding, 'Men as a bhikkhu ardent and sagacious He succeeds in disentangling this tangle.

The Noble Eightfold Path which could be classified under right values and right action, enables man to achieve the highest ends. For economic stability and well-being, the Buddhist system stresses three factors.

1. Utthana Sampada: The Buddha when encouraging the production of wealth makes special reference to six job ranges prevalent at that time: 1) Agriculture, 2) Trade, 3) Cattle breeding, 4) Defence services, 5) Government services, 6) Professional services.

In the discourse pertaining to a layman's happiness (domestic and otherwise) (Cahapati Sukha), foremost is mentioned the satisfaction derived by a layman from the possession of wealth obtained through righteous means. (Atthi Sukka). However, the Buddha warns man against the tendency to become a slave to the mere accumulation of wealth for its own sake. It would lead to both physical and mental suffering later. Adequate means of livelihood to support oneself and family, to help relatives and friends, and to distribute among the needy and the deserving, would lead to contentment and inner satisfaction. This in turn would result in the moral and spiritual development of man.

2. Arakkha Samapada: This means the worldly happiness derived from the constant protection of one's wealth (that has been righteously obtained) from burglary, fire, floods etc. As the Buddha has extolled the virtue of savings, this factor too could be considered in this context. Obtaining money on credit (or loans) was prevalent even during the Buddha's time. Persons like Anathapindika were the bankers of the day. The Buddhist texts make references to instances where he gave loans both to the state as well as to ordinary people. However, Buddhism does not approve of excessive borrowing for as the saying goes "borrowing dulls the edge of husbandry" - and the Buddha's advocacy of a life free from debts (anana sukha) as being conducive to the happiness of a layman supports this statement.

3. Sammajivikata: This is the third of the three basic principles in the Buddhist Economic system. A person should spend reasonably in proportion to his income, neither too much nor too little. In the discourse relating to the householders' happiness (gahapati sukha) enjoyment of one's income appropriately and wisely (bhoga sukha) is given as one of the four factors conducive to lay happiness.

In this modern world although highly advanced in science and technology, with its rapid expansion of knowledge, there appears to be a steady deterioration of human values. Present day politics, the economy, and educational systems are some of the more important reasons for this state of affairs. In this context it is considered desirable that the existing political and economic thought and educational systems should be changed so as to give priority to the development of human values.

Buddhism is both a path of emancipation and a way of life. As a way of life it interacts with the economic, Political and social beliefs and practices of the people. It is felt that the time is now most opportune to make known to the world each of the above aspects of society within the framework of Buddhist Ethics and the basic principles of Buddhism. The progress of a country depends ultimately on the progress of the individual. Over 2500 years ago, the Buddha was born into a confused society entangled in various views

regarding life and thought in general. Through Buddhism it was possible to disentangle this tangle of views and to reduce this confusion. Today too, in This Confused Society it is generally believed that Buddhism could again help in lighting a path through the darkness of this confusion (MN. 88, Vyagghapaja Sutta.).

### **Discussion of Sustainable Development**

In the move towards sustainable development and the conservation of traditional knowledge, efforts are also being made elsewhere in India to capture, document and convert traditional knowledge into micro-enterprise opportunities. The primary results of such initiatives in India have revealed important findings. Four products, including a nutrient supplement, baby massage oil, a skin cream and an incense stick, have been chosen from village knowledge registers to be converted into micro-enterprise opportunities. All the knowledge holders of these products formed a shg named Amala. The products were tested and standardised and will now be available in the market under the brand name Sahya. This demonstrates a success story from traditional knowledge documentation to the promotion of related market products while improving economic income of knowledge holders.

The village workshop was useful for exploring and promoting traditional knowledge based practices where a community faces changes in local food consumption, medicines and livelihoods. The issue of conserving biocultural resources and promoting traditional knowledge was a concern and matter for debate among the participants of a state-level workshop held in November 2006 at Pasighat, Arunachal Pradesh. This workshop was based on the results of a series of village workshops and comprised different cultural groups of Arunachal State. Being a chief guest of event, Shri Tako Dabi, Hon. Minister for Water Supply and Assembly Affair, described his concern about the rapid erosion of culturally-rich traditional knowledge among younger generations of Adi and other communities.

He emphasised that traditional knowledge and related biocultural

resources are important sources of natural and social capital for various tribes and provide the basis for the sustainable development of Arunachal Pradesh state. Despite this, the state government did not develop any specific policy or strategy for promoting traditional knowledge and conserving related biocultural resources until 2003. In 2003, the Arunachal Government reviewed its developmental policies and formulated state policies that showed interest in promoting traditional knowledge, related biodiversity and protecting IPR of knowledge holders. However, much more still needs to be done to protect the biocultural diversity of Arunachal Pradesh, including prioritising traditional knowledge promotion and conservation of bio-resources for community knowledge-led development (Biocultural Knowledge and tribe Community, 2009.12).

The village workshop made local people aware of their valuable plant resources such as the critical endangered tree *Gymnocladus assamicus* and culturally and the medicinally important tree *Dikang*. Communities have now started conservation of these trees in community knowledge gardens. Plants, animals and related cultural practices are now recognised as collective heritage as opposed to individual property. This supports the results reported by Te Pareake Mead and Swiderska. Having emerged from a community context, the concept biocultural diversity reflects the holistic worldviews of tribal people (Coming to Understanding: Developing Conservation Through Incremental Learning in the Pacific Northwest, 2006. 34.).

## Conclusion

Traditional knowledge systems, far from being archaic and irrelevant to policy makers, offer solutions to the challenges of food, nutrition, medicines and livelihoods of local communities. They also act as novel tools for evolving and nurturing local practices that can sustain the health of local ecosystems. In the case of biocultural diversity, traditional knowledge is contained within the local language and culture. Resource dependent communities frequently have an intimate knowledge of their local biodiversity, but this varies according



to gender and age. Some traditional knowledge practices offer opportunities for developing contemporary food and medicinal products, including weaning foods, food preservatives and functional foods, as well as primary healthcare treatments. Similar health and nutritional practices from different villages can be pooled and new products developed, packaged and branded to generate income and employment for local communities.

In the light of globalisation and modernisation, traditional knowledge systems and related biocultural resources are eroding among the younger generations, and there needs to be rapid intervention to prevent further loss and thus ensure the continuity of both the subsistence economy and resource base. Organising grassroots activities and contests enhances the promotion of traditional knowledge and conservation of biocultural resources. These raise the interests of local people about foods, ethno-medicines and other practices. Such approaches may be helpful to prevent knowledge erosion and revitalise traditional knowledge. The benefits obtained depend largely on the typology of traditional knowledge, and distribution patterns are influenced by the variability in indigenous institutions where traditional knowledge is found. Recognition of customary laws and institutions may form the basis of *sui generis* systems at all levels. It can determine the access to rights over community traditional knowledge and bio-resources, procedures for prior informed consent implementation and equitable benefit sharing between knowledge holders.

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