

Short Communication

Shifting Cultivation: Towards Transformative Change with Special Emphasis on North East India

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Abstract: Despite changes in the socio-economic sphere of the tribal communities across North East India, shifting cultivation continues to play an important role in providing livelihoods and food security to the rural tribal communities. For these tribal communities, the importance of shifting cultivation is beyond economic concerns. Though with government interventions and under innovative shifting cultivation, the farmers have taken to newer methods of cultivation, the transformative change to other diversified livelihoods needs to accommodate the needs of the growing tribal population. The paper is a short commentary on the continuance of the practice of shifting cultivation in North East India in the light of the transformative change taking place amidst rural tribal communities engaged in shifting cultivation.

Key words: Alternate diversified livelihoods, shifting cultivation, sustainability, tribal communities

Introduction

Across North East India, more so in the hilly states, a large number of households depend fully or partly on shifting cultivation or slash and burn cultivation – a form of land use popularly known as *jhum* cultivation in the region for their livelihood and food security. The majority of the households practicing shifting cultivation in North East India are tribal ethnic groups. Shifting cultivation in the region is considered as primary means of economic mainstay with exception to the plains of Assam, Tripura and valley areas of Manipur.

Almost all the tribes living across the uneven terrain, except the Apatanis of Lower Subansiri district, Khamptis of Lohit district and the Monpas of West Kameng district in Arunachal Pradesh of North East India practise shifting cultivation. The art of shifting cultivation across the region varies widely and is as diverse as the variegated hill tribes who practise it. The common practices which cut across shifting cultivation in the region are removal of natural vegetation, be it forest or hill by cutting and subsequent burning, alternation between short durations of cultivation and comparatively long duration forest fallow and cyclical shifting of fields.

One of the major disadvantages of shifting cultivation in the region is that in the process of burning and clearing forests or hills, large areas of land between shifting cultivation fields which are declared 'not fit for cultivation' are also burnt down. It is a fact that the burning area in shifting cultivation is much larger than that of the area actually cultivated. Clearing and burning of forests lead to a great disturbance in the natural ecosystem, destroying different kinds of insects with their well laid habitat, food supply and the specific environment of their adaptation (Lianzela, 1997). It is therefore, the slash-and-burn nature of shifting cultivation which largely ascribes shifting cultivation with a negative perception, reflect the widespread prejudicial view that it is a destructive and wasteful form of agriculture (AIPP & IWGA 2014).

Shifting cultivation, sustainability and livelihoods

Despite the changes taking place in the socio-economic sphere among the tribal communities across North East India, shifting cultivation continues to play an important role in providing livelihood and food security to the rural tribal households

(Tripathi and Barik, 2003). Without shifting cultivation, the tribal households are not in a position to ensure food security with no other alternative source of livelihood. For these tribal communities, the importance of shifting cultivation goes beyond mere economic concerns. Shifting cultivation is an intricate part of their way of life and is closely tied to their cultural identity (Cherrier *et al.*, 2018). In fact, it continues to be the pivot around which they plan their annual work calendar closely guided by their traditional customary rules and regulations.

The indigenous tribes possess a rich knowledge on seeds, crop varieties and medicinal plants. There are at least 50 varieties of grains, tubers, vegetables, legumes, fruits, herbs and medicinal plants grown during the cultivation cycle in shifting cultivation (AIPP & IWGA, 2014). In addition to growing staple foods like rice and tubers under shifting cultivation, the tribal households grow a wide range of vegetables and herbs and a considerable number of medicinal plants both in fields and fallow. It is obvious that as a result of multiple and staged cropping of a broad range of plant varieties, the harvest of food crops continues even long into the fallow period thereby increasing the cycle of cultivation exhausting the soil nutrients. Besides, the indigenous households have rich knowledge about non-timber forest products (NTFP) which are found to be harvested even during the fallow period (Pérez and Arnold, 1995). The vast repository of indigenous knowledge on NTFP provides the tribal households not only for food security but also health benefits, nutrition and additional income for the household.

Livelihood (mis)understood: Reality Then and Now

Shifting cultivation is probably one of the most controversial forms of land use (AIPP & IWGA, 2014). In 1957, the Food and Agriculture Organisation (FAO) declared shifting cultivation as the most serious land use problem in the tropical world (Erni, 2015). In the name of forest conservation and development, colonial and post-colonial governments in Asia had more than a century devised policies and laws seeking to eradicate shifting cultivation (AIPP & IWGA, 2009). Since

then, it has been found that many of the arguments brought forward against shifting cultivation like it is an economically inefficient and ecologically harmful practice has been actually found to be “an ideal solution for agriculture in the humid tropical climate as long as the human population density is not too high and fallow periods are long enough to restore soil fertility. This agricultural system has in fact been found to be ecologically sound meeting a variety of human needs with great efficiency, particularly with regard to labour and other agricultural inputs” (Christanty, 1986).

In recent times, the understanding on land use and management practices among shifting cultivators is found to have been enriched through dissemination and sharing of knowledge and information by the government as well as non-government organisations. Research being conducted both across social and natural sciences on shifting cultivation and its pros and cons are not only adding to the knowledge repository on the subject but also contributing towards its better implementation. In fact, the current climate change discourse has taken the debate on shifting cultivation to the global level blaming the shifting cultivators for too much carbon emissions and thus for contributing to global warming (Erni, 2015). However, it is also said that as long as a minimum cycle of seven to ten years can be maintained with up to two or three years cultivation and at least five years fallow, shifting cultivation as has been believed thus far, cannot be primarily termed as the driver of deforestation.

Shifting cultivation *per se* is a sustainable form of land use that does not lead to deforestation unless land scarcity forces farmers to clear new land in forest areas. It is said that in the states across North East India, shifting cultivators are currently confronted with a resource crisis as the population-land ratio has reached critical levels leading to change in forest and vegetation cover, soil erosion, decline in soil fertility and marked loss in biodiversity. Population growth, a resultant of natural growth as well as in-migration and resettlement, has only led to a fall in the population-land ratio. However, it is largely found that against predictions by concerned policy makers and environmentalists, this crisis of population-land

ratio has only led the shifting cultivators in North East India to modify the land use practices with shortened jhum cycles, and with only a handful of them taking to new livelihoods. With most of the shifting cultivators, their land and resource rights being not recognised and protected, shifting cultivation in the region continues to rule as the primary source of sustenance for the households.

From shifting cultivation to alternate diversified livelihoods: drivers, constraints and opportunities

The decades old notion of ecologists who made extensive studies on shifting cultivation in North East India that any development in the region should be jhum centered as it does not have any viable alternative to shifting cultivation, no more holds good (Ramakrishnan, 1992). It is seen that livelihoods among the indigenous tribal communities across North East India today have become more diversified, partly out of necessity and partly out of choice. With increase in the growth of population, scarcity of land is found to be one of the main external driving forces behind the contemporary livelihood changes. Yet another driving force is market intrusion as indigenous tribal farmers are seizing new opportunities to increase their income and improve their living conditions. Furthermore, education and mainstream media are also playing vital roles in bringing about changes in livelihood preferences among the shifting cultivators. The need of hour is to acknowledge and build upon these drivers for sustainable development in a highly complex ecosystem.

The Government of India and state governments of the region too have made several interventions in the form of development projects and have disseminated technologies for enhancing productivity of land under shifting cultivation to encourage farmers to go for settled cultivation. Several national and international agencies have supported schemes and have provided funds through the state government and non-government organisations for enhancing productivity of land under shifting cultivation, thereby improving the livelihoods of the shifting cultivators. Watershed Development Project in Shifting Cultivation Area (WDPSCA), National

Afforestation Programme, Interventions under Green India Mission, Technologies/Models Developed by GB Pant Institute of Himalayan Environment and Development, Sustainable Land Management in Shifting Cultivation Areas of Nagaland for Ecological and Livelihood security, GEF, Nagaland, North East Rural Livelihood Project (NERLP) sponsored by World Bank in Nagaland, Mizoram, Tripura and Sikkim, Indo-German Development Cooperation Project on Participatory Natural Resource Management, KfW/GIZ, Tripura, Tripura Forest Environment Improvement and Poverty alleviation Project, JICA, Tripura, Assam Agricultural Competitiveness Project, World Bank, Assam, Assam Project on Forest and Bio-diversity Conservation, AFD, Assam, North East Region Community Resources Management Project for Upland Areas-II, Assam, Meghalaya and Manipur, IFAD, DONER, Livelihoods Improvement Projects for the Himalayas, IFAD, Meghalaya, Climate change adaptation in India's North East Region (CCA-NER) GIZ, Meghalaya, Nagaland and Sikkim, Terrace cultivation in Jhum land of Nagaland and Manipur, Agri-silviculture, horti-silviculture models in degraded jhum lands in Mizoram, Nagaland and Tripura, Plantation of perennial crops on degraded lands in Tripura, Integrated Jhumia Rehabilitation Programme, Development of Irrigation Infrastructure in Jhum Areas, Jhum improvement works by Meghalaya Rural Development Society, Improvement of Jhum in Nagaland by Nagaland Empowerment of People through Economic Development, (NEPED), Strip cropping in Nagaland etc are some of the interventions taken up in the region to transform shifting cultivation (Tiwari, 2014).

One of the constraints underlying the transformative change from shifting cultivation to alternate livelihoods is non-recognition of land rights. Where land rights are recognised, it becomes easier for the tribal households not only to shift to alternate vocations but also avail opportunities of alternative farming practices under schemes targeting individual producers and not communities. The land tenure systems of the North East India are unique and quite different from the rest of the country except for the plains of Assam, Tripura and the valley areas of Manipur. In the hill areas of North East India,

individual rights over land is yet to take the form of complete property rights in the sense that transfer of these rights is subject to restrictions by the village councils if not virtually possible (Bezbaruah, 2007). The local customary laws govern the land tenure systems of the region. Traditional customary laws are enforced by the indigenous traditional institutions headed by the tribal head or village headman, which vary from location specific to tribe specific. Further, non-transferability of holding rights makes user rights on land unsuitable as collateral for securing institutional credit by the landowners. This has been for long a constraint for extending institutional credit in the hill states of the region. This particularly calls for revisiting the land tenure system in the region for better accommodating the desired transformative change in shifting cultivation.

Diversification of land use practices to meet both subsistence and cash needs is seen occurring among shifting cultivators of North East India. One of the studies reveals that in some districts of Nagaland, outmigration and off-farm employment opportunities have reduced the pressure on shifting cultivation land and allowed for longer fallow periods (AIPP & IWGA, 2014). Innovative practices, such as combining shifting cultivation with agroforestry practices (like fruit and cashew orchards in Cambodia, rubber gardens in Indonesia), growing high-value cash crops in shifting cultivation fields (various vegetables and herbs, ginger, turmeric etc. like in India and Bangladesh), establishing separate, permanent fields for cash crops (tobacco, corn, flowers, pineapple, vegetables etc. in Thailand, India or Bangladesh), improving fallow management through planting of specific trees, or the domesticating wild plants in high demand (e.g. in India) are some of the opportunities through which a transformative change can be brought about in shifting cultivation in North East India.

Yet another study mentions that a joint initiative of Mekong Watch and the government of Pak Beng district of Oudomxay province in Northern Laos shows that alternative approaches for a transformative change in shifting cultivation are possible (AIPP & IWGIA, 2014). Allocation of land and

forest which was once a part of a nationwide government programme created severe problems for the livelihoods and food security of the communities. However, post adoption of participatory programmes and with involvement of villages, the farmers who follow the new set of community rules no longer have to cultivate their shifting cultivation fields illicitly. In North East India too, therefore, there is a need to have a bottom-up approach in transforming shifting cultivation. Strengthening policy advocacy at regional level on land tenure, food security and livelihoods based upon the principle of equal partnership between the states and indigenous tribal communities adhering to prior and informed consent of the tribal households in relation to sustainable management of shifting cultivation and sustainable resource management can go a long way towards the transformative change in shifting cultivation. The transformative change must be able to accommodate the needs of the growing tribal population by taking into account the socio-economic set-up in which the tribal societies function. The customary laws of the tribes related to shifting cultivators too need to be assessed thoroughly and are to be codified with modern laws for easier and successful regulation of shifting cultivation across the region. This calls for a number of measures which can be undertaken – (i) developing practical and relevant guidelines for policies that encourage farmers to adopt technologies that are eco-friendly and environmentally sound, (ii) involvement and participation of local people at all stages of decision making, (iii) amalgamation of indigenous knowledge and scientific research, (iv) developing suitable strategies for agricultural marketing, (v) developing fallow systems that cycle nutrients and enhance soil fertility, and (vi) designing of biological barriers to prevent soil erosion and water runoff.

Conclusion

It is beyond doubt that traditional farming systems like shifting cultivation which has emerged over centuries of cultural evolution of North East India is in fact the experience and interaction of indigenous farmers with their environment. While giving a relook into modifying this traditional practice and

moving towards a transformative change, along with conserving nature, it is always prudent to address food security first followed by giving market linkages. Transformation in any form should not only be an improvement upon the old, rather must also accommodate the value system and needs of any society.

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