

Indigenous control and sustainability of common resources in the hills of North East India

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In excess of 200 tribal groups at various stages of socio-economic development are settled in India's north eastern region (NER), prompting the government to allow these sensitive, hitherto loosely administered territories under British rule to be governed by a separate Sixth Schedule under the Constitution of India. This Schedule, was enacted five decades ago to allow autonomy to tribal communities in their administrative, legislative and financial matters; it also served to protect them from domination and exploitation from external forces.

As a result land, forest and mineral resources were exploited on a community basis; tribal institutions governed the use of resources and tribal belief systems promoted sustainable use and exploitation of common resources. The preservation of 'sacred forests' and unabated shifting cultivation are examples that show that the results of self governance were a mixed bag.

The Region

Spread over an area of 255,000 km² the NER comprises of the 7 states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura and shares international boundaries with China, Myanmar, Bangladesh and Bhutan (Figure 1). Tenuously linked with the Indian mainland by a narrow stretch of land 21 kilometers in width, the region remained - as a result of British colonial policy- until 1950 relatively isolated, physically and culturally, a trend that allowed an internal homogeneity of sorts to develop. The NER accounts for barely 8% of India's total geographical area but it contains more than 25% of her forest area. Rich as they are, the forests of the NER are however among the most critically affected areas in India in terms of forest loss (FSI 1995). The region is a combination of lowlands on the one hand and plateaus, hills and mountains on the other in a 3:7 ratio. Elevation varies from 30-130 meters in the former and between 1500-7200 meters in the latter. The climate is a blend of cold humid monsoon in areas above the 2000 meter contour line, wet sub-tropical in southern stretches of Arunachal, western Nagaland, Mizoram and Manipur to humid mesothermal monsoonal in the valley and plateau areas (Barthakur 1986). Rainfall, copious throughout the region, is torrential in stretches like the Cherrapunji-Mawsynram-Pnursula belt of southern Meghalaya bordering Bangladesh. Against such a backdrop luxuriant tropical vegetation ranging from alpine, subtropical pine and montane to tropical wet evergreen, semi-evergreen, and moist deciduous thrives. A variety of species, several commercially important such as *shorea robusta*, *tectona grandis*, *shorea assamica*, *schima wallachii*,

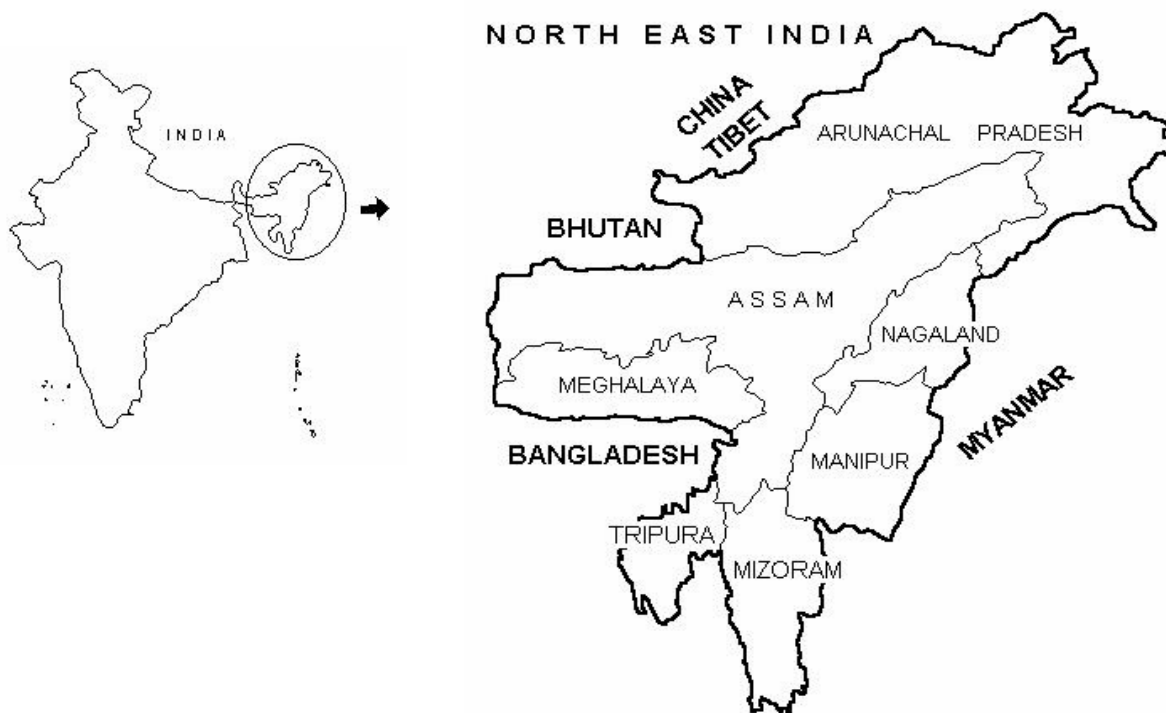


Figure 1: The seven states of the North Eastern Region of India

terminalia myriocarpa, *michelia champaca*, *phoebe goalparensis* and *dipterocarpus retusus* are found throughout the region, although rarely in pure stands.

The Sixth Schedule

While the tribal population of the rest of India came under the Fifth Schedule, the Sixth Schedule provided for the administration of the tribal population of the NER (Baruah,2003). This Schedule provided for autonomous districts and autonomous regions within those districts with elected councils that enjoyed the power to levy certain taxes, to constitute courts for administering justice and make laws on various subjects (ibid,2003). As stated in the Schedule the powers of the District Councils and Regional Councils to make laws were with respect to-

- (a) the allotment, occupation or use, or the setting apart, of land, other than any land which is a reserved forest for the purposes of agriculture or grazing or for residential or other non-agricultural purposes or for any other purpose likely to promote the interests of the inhabitants of any village or town
- (b) the management of any forest not being a reserved forest;
- (c) the use of any canal or water-course for the purpose of agriculture;
- (d) the regulation of the practice of jhum or other forms of shifting cultivation;

- (e) the establishment of village or town committees or councils and their powers;
- (f) any other matter relating to village or town administration, including village or town police and public health and sanitation;
- (g) the appointment or succession of Chiefs or Headmen;
- (h) the inheritance of property;

A "reserved forest" meant any area which is a reserved forest under the Assam Forest Regulation, 1891, or under any other law for the time being in force in the area in question.

The District Council for an autonomous district shall have the power to levy and collect all or any of the following taxes within such district, that is to say-

- (a) taxes on professions, trades, callings and employments;
- (b) taxes on animals, vehicles and boats;
- (c) taxes on the entry of goods into a market for sale therein, and tolls on passengers and goods carried in ferries; and
- (d) taxes for the maintenance of schools, dispensaries or roads.

Further licences or leases for the purpose of prospecting for, or extraction of, minerals.- also were under the purview of the respective District Council.

In fact, in Meghalaya, perhaps the best case of sacred groves in the region, the Khasi Hills Autonomous District Council in classifying forest in the district under 8 categories identified a separate category of sacred forests, viz. the Ri Law Lyngdoh, Law Kyntang, Law Niam; these are forests set apart for religious purposes and hitherto managed or controlled by the Lyngdoh or other person or persons to whom the religious ceremonies for the particular locality or village or villages are entrusted (Nongbri,2001).

Thus, in the context of the present analysis, the tribal population was responsible for governing the use of its common property resources, including shifting cultivation and sacred groves.

The Extent of Deforestation

Compared to the rest of the Indian mainland the NER was brought under British rule relatively late in 1826 and transport, commerce and trade were less developed in this region than elsewhere. Although depletion of forests occurred more slowly in the face of limited accessibility, it also meant that government control of the twin scourges of expanding tea plantations established on cleared forest lands and the encroachment of immigrants peasants from present day Bangladesh on forest lands, were much more ineffective (Tucker 1988a). Additionally the opening of timber mills during the 1920s along with the grant of long term leases on 'exceptionally favourable terms' to Marwari and Bengali contractors resulted in the commercialisation of the upper Assam forests (Tucker 1988b). The magnitude of forest losses between 1826-1950 are difficult to gauge. Thereafter, however, estimates on the extent of forest are available. Estimates by the Central Forestry Commission reveal a loss of 1763 km² of forest area in the NER between 1951-1983 (Kashyap 1990).

Between 1989 and 1993 the NER lost 1418 km² of forest while the rest of India recorded an increase of 1836 km² (FSI 1995). With an additional loss of 316 km²

recorded during 1993-95 (FSI 1997), the magnitude of forest loss over the 6 year period between 1989-95 amounted to 1734 km². This closely approximates the loss which occurred over the earlier 3 decade period pointing to a clear acceleration in the rate of forest depletion. In reality the extent of forest loss was much higher at 6066 km² but was compensated for by forest regeneration in the abandoned shifting cultivation areas. These losses in forest cover occurred inspite of community control over forest resources.

Agents of Deforestation

Shifting cultivators are often seen as the primary agents of deforestation in developing countries (Myers 1992) although the role of this traditional method of cultivation is sometimes overemphasised (Angelsen 1995). In the NER as well, shifting cultivation is considered as one of the foremost agents of deforestation (Ranjan and Upadhyay 1999, Sarma 1987, Rajimwale 1991, FSI 1999, Roy and Joshi 2002).

In the hill areas of north-east India, shifting cultivation is the main source of livelihood of the people and this is hardly surprising considering the low level of socio-cultural, technology and the negligible proportion of level land available in the state. In the hill slopes, the tribal farmers has little other option than to resort to '*Jhum*' cultivation, (shifting cultivation is locally known as 'jhum' or 'jhoom' in North-East India). From the point of view of forests, however, *jhum* cultivation could not have been much more harmful. When the practice was adopted in societies with negligible population pressure, the *jhum* field/plot was allowed to lie fallow for long years; long enough to allow vegetal cover to regenerate before the cultivators returned to cultivate that plot again and thus complete the *jhum* cycle. Such long cycles, which were ecologically healthy, soon gave way to reduced cycles once the factor of population and land scarcity came into play. Current practices of *jhum* in the hills of north east India with short cycles in the face of growing population are not ecologically healthy practices and it is a practice that has, among other factors, taken a toll on the vegetal cover in the hills (Saikia and Mipun,2000).

Short cycles are a contrast to the pre-1950s when cycles as long as 20-30 years prevailed and were ecologically sustainable. Current practices are recognised as being neither ecologically nor economically viable (Ramakrishnan 1985). Negative ecological effects result in two ways: *first*, when shifting cultivators shift their cultivation plots, fresh forest lands need to be cleared and with reduced cultivation cycles that vary from 3-5 years, in the face of increased population pressure on land resources, abandoned plots rarely get enough time to regenerate and *second*, the secondary forests that grow are much poorer in terms of crown density, species diversity and richness vis-à-vis the primary forests.

While it is easy to label shifting cultivation as the major cause of forest loss, the fact remains that for the shifting cultivator there are many advantages:

"the jhoom fire quickly renders a dense forest fit for growing crops. Fire is thus a great labour saving device and clears the cut jungle in a very short time. The ashes correct the soil activity, and the admixture of ashes with the soil makes the soil more fertile. The soil of hill slopes of high rain zones are generally acidic, which are partly neutralized by the alkali content of the ashes. Further fire clears the areas of extensive preponderance of fungi, insects and pests...the clearing of insects and pests from the surrounding areacreates a protective

belt and keeps the crop safe from the heavy inroads (made by) insects and pests. Burning also retards the growth of tubers and seeds of weeds.... If the fire had not helped him in this manner, he would have laboured more and reaped less". (Barthakur,1977.)

The fallow period in shifting cultivation allow soil to stabilize and vegetation to regrow; it also promotes greater carbon sequestration and biodiversity conservation than that in permanent agriculture, as Fox (2000) observes, though it adversely affect species loss through forest fragmentation and also the structure and composition of forests.

Spatio-temporal dimensions of *jhum* cultivation areas

To understand the spatio-temporal characteristics of shifting cultivation, a previous study of Tirap district is used (Saikia and Mipun,2000). This district lies to the eastern corner of Arunachal Pradesh, to the north of Nagaland. During the years 1994 and 1996 there were 4.03 percent and 2.41 percent of the district's area under *jhum* cultivation respectively in Tirap district. This amounted to 95.19 km² area under *jhum* in 1994 and 36.99 km² area under *jhum* in 1996 showing a decline of roughly 50 percent of the 1994 *jhum* extent.

This is indicative of the variable nature of the practice. On a particular year a slightly larger area may be brought under *jhum* cultivation than on another year, depending on the requirements of the *Jhumia* family and the community, a slightly lesser area may be cleared and brought under *jhum*. Thus from the point of view of impact or degrading impact on forest cover, *jhum* can have a variable impact. However it is important to note here that over time when more and more areas are brought under the *jhum* cultivation practice, the deleterious effects on forest cover, soil loss and soil erosion get compounded. This is true as population pressure and land scarcity combine to bring on reduced *jhum* cycles and hence the *jhum* plot does not get enough time lying fallow to regenerate its soil/vegetal richness and becomes increasingly susceptible to degradation.

While over time, *jhum* can have a cumulatively deleterious effect on soil and the vegetal cover, the impact of forest degradation is not all that apparent in a given year. On the basis of that study, 4 percent in one instance and 2.4 percent in the other is hardly enough evidence to 'blame' the entire forest degradation scenario on *jhum* cultivation. In fact during the study village elders interviewed felt that both *jhum* and timber logging were agents of forest degradation.

How are *jhum* plots located with respect to settlements? Only in rare cases *jhum* plots were 4-5 kms or more than 5 km from the nearest settlements. The distance in the case of few such instances would possibly change and reduce considerably if the settlements in the district border, i.e. with Changlang were considered since there could be inhabitants in such fringe areas who cross the district to reach *jhum* lands in Tirap. A similar situation of shifting cultivation plots located in proximity to settlements exists in 1996 (Table-1).

Table: 1 Distribution of *jhum* plots in relation to settlements, 1996

Distance from settlement in km	No. of <i>jhum</i> plots	% of plots to total no. of <i>jhum</i> plots
Within 1km	50	43.48
1-2	34	29.56
2-3	21	18.26
3-4	5	4.35
4-5	5	4.35
Beyond 5	-	-
Total	115	1000

Source: Saikia and Mipun,2000.

Degraded forest exist in close proximity to settlements, and the linkages between *jhum* areas and degraded forests becomes obvious; the tendency for degradation of forests areas to occur to close proximity to settlement areas, pointing to the impact of *jhum* on forest degradation.

Forest degradation: not by *jhum* alone

While shifting cultivation is viewed in some quarters as a major cause of tropical deforestation, recent research suggest that the reality is often more complex, and that explanations for deforestation must be sought in a variety of factors, many of which should be placed at the door of governments and international capital rather than of shifting cultivators (Brown and Schreckenber, 1998). There are many causes of deforestation other than shifting cultivation. These vary in different parts of the globe and range from resource privatization, land speculation, fiscal incentives for land conversion, tenurial policies to ‘ development projects’. In the case of Tirap district while shifting cultivation is one agent of forest degradation, other factors underlying forest degradation/forest loss include timber logging. While the impact of forest degradation is not all that apparent in a given year, over time as more and more areas are brought under the *jhum* cultivation practice, the deleterious effects on forest cover, soil loss and soil erosion get compounded. Growing population and reducing periodicities of *jhum* cycle have aggravated the adverse impact of *jhum* on forest. In addition to forest cover additional effects of an increasing population pressure, declining land availability through degradation and a consequent shortening of the agricultural cycle, cause: (a) a drastic reduction in yield (b) reduce agro ecosystem and landscape stability in the face of the population, leading to social disruption (c) a decline in bio diversity due to weed take over, biological invasion and eventual site desertification and (d) substantial CO₂ emitted into the atmosphere because of more frequent and extensive burns (Ramakrishnan, 1995).

In the past, longer cycles (20-30 years) with long fallow periods were not harmful to the environments. Since there is no way to increase the length of the *jhum* cycle some sort of alternative livelihood for *jhumia* farmers must be explored. These could include activities like horticulture/pisciculture or even cultivation of commercially valuable species and selectively harvesting them on a profit sharing basis.

Of these integrated rural development is by any means the least important since it is though increased public participation that socially adaptable/adoptable and economically attractive employment or income generating awareness may be arrived at.

According to official sources about 44 lakh tones of fertile soil is lost every year from areas where *jhum* cultivation is practiced in Nagaland. It has been estimated that 70 percent of the total top soil degradation and water resource degradation in Nagaland was due to *Jhum* cultivation (The Hindu 1998). This reference to Nagaland, Tirap's neighbour to its immediate south is relevant not least due to the similarity in practice in *jhum* and the close cultural affinity of the Wanchos and Noctes with the tribes of Nagaland.

Although shifting cultivation is identified as the single largest factor behind loss of forest cover in the NER (FSI 1997), other factors such as timber consumption within the region, timber trade, illegal trade in timber and forest ownership patterns also contribute to deforestation.

A large number of saw, ply and veneer mills are located within the NER. During the past decade Assam, produced over 65% of India's plywood and along with Arunachal Pradesh, Meghalaya and Nagaland accounted for over 75% of national plywood output (Singh 1990). Additionally a burgeoning population has put added pressure on forests which continue to be the main source of domestic fuel in rural areas as also among the urban poor. Considering that 20 persons in a rural setting consumed an estimated 3060 kilograms of fuelwood to meet about two thirds of their annual energy requirements (Mishra and Ramakrishnan 1982) the impact of a population that has currently a doubling time of 25 years can well be gauged. There is of course considerable internal variation among different communities that habit the region, from 10.4 kilograms/capita/day among the Nishis to 3.1 kilograms/capita/day among the Kacharis¹ (Maikuri,1991). In general ,leaving aside internal variations the fact remains that fuelwood supply exerts a tremendous impact on the vegetation cover close to centers of habitation in most rural areas of North East India since it is the main source of cooking and space heating (Bora,2003).

A substantial timber trade from the NER to the mainland was another cause of deforestation. Out of the total volume of the national inland trade via rivers and railways in teak of 71,430 tons in 1993-94, as per records of the Directorate General of Commercial Intelligence and Statistics (DGCIS) over 85 percent originated from Assam, Nagaland and Tripura, with Assam alone supplying nearly 80 per cent.. Much of the teak from the NER found their way to international markets via ports in Gujarat. A similar situation existed in case of 'other timber', another category in the DGCIS classification scheme. Assam accounted for over 66% and along with Nagaland, Tripura and Meghalaya supplied 73% of the country's national intra-regional trade in this category during 1993-94. Moreover, considerable volumes of timber were transported via roads and it is estimated that well over 370976 m³ of timber was transported to other parts of India from the NER during 1995. Of late illegal trade in timber has reached serious proportions with the involvement of certain insurgent outfits in the trade of valuable species. The quantum of illegally transported logs seized which forms only a fraction of what actually goes through is indicative of how much timber is smuggled from the

1. The *Nishis* and *Kacharis* are two of the numerically larger tribal communities of the region.

NER. In Assam alone seized logs varied between 16,000m³ to 19,000m³ between 1991-92 and 1994-95.

While in much of India forests are owned by the government and are managed by the respective state forest departments, in the NER forests are largely under communal ownership barring 4-5% that are under government control (Table 2). The community decides how the forest wealth is utilised. In the past the ecological wisdom of indigenous communities made for sustainable use, however, the lure of easy money from private contractors in an otherwise backward region has encouraged rapid forest exploitation in recent years. Low literacy levels and lack of alternative livelihoods compound the problem.

Table 2. Ownership of forests in North East India

(area in square kilometers)

Province/State	Forest area	Forest ownership type		
		Reserved	Protected	Unclassified
Arunachal Pradesh	51540	15329	8	36211
Assam	30708	18242	3934	8532
Manipur	15154	4171	9520	1463
Meghalaya	9496	981	12	8503
Mizoram	15935	7127	3568	15935
Nagaland	8629	86	507	8036
Tripura	6293	509	2196	3588

Source: Forest survey of India, 1995.

Competition

Population, bred on poverty, veritably operates in the context of a 'prisoner's dilemma' with regard to exploitation of community and common property resources. In the usual context the term 'prisoner's dilemma' refers to how two prisoners react to being questioned separately and in spite of standing to gain freedom if none reveals their crime, both end up implicating each other. In the present context, it is used more akin to competition between village residents in terms of exploiting forest resources for the market. With common property resources or community resources the perception being that if resident A does not harvest 600 bamboo poles, resident B will, and meet the contractors demand for poles. Thus each resident harvests the maximum he/she can, using self and family man-power. Such a dilemma over how much to harvest/exploit is

compounded by poverty and the absence of alternative sources of livelihood. While poverty forces the resident to harvest forest resources to better his economic means, the un-diversified nature of the economy ensures that with no other means of sustenance, the local economy offers no alternative to the primary resources being speedily exploited. In the past the ecological wisdom of indigenous communities made for sustainable use, however, the lure of easy money from private contractors in an otherwise backward region has encouraged rapid forest exploitation in recent years.

While there is a struggle to give local communities rights over forests in an attempt to stem environmental degradation and forest loss in the rest of India, in North East India a piquant situation exists: the communities already have control and authority over natural resources; in spite of this forest loss occurs (Sinha, 1993; Dutta, 2002). Disconcertingly, even in areas where the Forest Departments of the respective states control forests, the picture remains much the same. Illegal logging persists and several drivers are responsible: foresters, contractors, locals and the institutional setup itself. In Arunachal's Lohit district, which boasts of Asia's wealthiest village, there is a scramble to exploit the district's 'green gold', and even the educated are party to the situation, with no thought of the long term results. Afforestation schemes remain well beyond the horizon.

In Assam's largest district and perhaps richest biodiversity storehouse, Karbi Anglong, habited by tribal population, the ownership of land rests with the community and the state control over land, in areal terms, is negligible. The nature of topography, with undulating hills and lack of level land, prompted the use of shifting cultivation since several centuries. Additionally, forest resources are utilized for subsistence (including shifting cultivation) and market requirements. Market demand is generated by the Nagaon Paper Mill which uses bamboo for paper production. Although officially there are forest working plans for the harvest of bamboo, in effect there is a rat race for harvesting bamboo poles that are cut and transported by trucks to the paper mill. Poverty and competition reinforce each other. Low literacy levels compound the problem.

The Karbi situation exemplifies much of forest use contexts prevailing in the NER.

Sacred Groves

If shifting cultivation represents an activity that has had undesirable effects on the environment, sacred groves (SGs) represent the positive end of the spectrum emanating from traditional community practices.

SGs are forests that have been protected since the ages by traditional societies that believed that such groves were sacred, were places habited by deities that would be angered if any materials from the groves were removed by the residents of nearby villages (Plate 1, Plate 2). In the past SGs were present in numerous parts of the world, nearly every continent, and were entities held sacred by communities with different religions and different forms of economic and social organization (Hughes and Chandran 1998). Most of the world's SGs have disappeared and few remain today. However some SGs have been passed down the generations and the hills of the NER are one instance where pristine groves relatively undisturbed by man, are found even today.

SGs are small groves that vary in size from a few hectares to a few kilometers protected by local communities as being the sacred residences of local deities and sites for religio-

cultural rituals, have served as valuable storehouses of biodiversity. SGs have well developed forest ecosystems and remarkable biodiversity. SGs have a high degree of species richness (Jamir 2002, Upadhaya et. al. 2003).

In the hills of the NER, in Meghalaya, and Assam the existence of numerous sacred forests have been documented (Jamir and Pandey 2002, Upadhaya et. al. 2003, Tiwari et.al. 1998, Hazra 1975, Tiwari 1995, Khiewtam 1986) though groves of Arunachal Pradesh and Manipur have not been given much attention. Some of the better known SGs are the Mawphlang SG in Meghalaya, the Rongbong SG in Hamren, Karbi Anglong (which is geologically a part of the Meghalaya Plateau; and is also ethnically very similar) and the SGs of Jaintia Hills, Meghalaya.

SGs are important storehouses of biodiversity, having remained largely undisturbed by human interference. In three SGs of Jaintia Hills in Meghalaya, a total of 395 plant species was found distributed in 108 families in an area of approximately 28 hectares (Jamir and Pandey, 2002). Haridasan and Rao (1985) reported that at least 50 rare and endangered species were thriving in SGs of Meghalaya. Similarly a high tree density and a high degree of species richness (using indices as the Shannon's diversity index and Pielou's evenness index) were calculated by Upadhyay et.al. (2003).

The concept of the 'sacred' species provides a basis not only for natural resource management, but also for rehabilitation of degraded ecosystems with community participation. (Ramakrishnan, 2001). The Union Ministry of Forests and Environment in its National Biodiversity Strategy and Action Plan has identified the traditional SGs as models of eco-reservation, it felt that Meghalaya, could teach the rest of the country a lesson or two on forest conservation. The sacred groves found in the Khasi Hills are so revered by the tribals that they consider it a grave sin and an unpardonable crime to cut a tree or even pluck a flower. (IE, 2002). Such a rosy picture notwithstanding, cultural changes in recent decades and developmental activities have posed serious threats to the survival of SGs in Meghalaya (Tiwari, et.al. 1998, Jamir and Pandey, 2002) as also other parts of NE India.

Unfortunately, botanical studies notwithstanding, an inventory of SGs regarding the areal extent, the canopy cover and even the locational attributes is lacking in the NER, as also in other parts of India. There could be many more SGs in the region and there is an urgent need to prepare a status report on these pristine forests that a treasure trove with several important attributes. The closest to an inventory is perhaps the study by Tiwari et.al. (1998) wherein the canopy cover of 56 groves were estimated.

Of late a decline in traditional beliefs has led to a decline in practices and rituals associated with SGs. In the SGs around Cherrapunji, wherein in the past every village had at least one SG, Khiewtam and Ramakrishnan (1989) observe that the last ceremony was done in 1926 and apart from a few groves at other places rituals and ceremonies have become a thing of the past. They state that at Mawmluh, Mawsmal and Wahlong villages, all in the vicinity of Cherra, the rituals have been either stopped or discontinued, in one case due to lack of cooperation from the village elders (Khiewtam and Ramakrishnan 1989). At the same time, the village council in Cherra has banned the practice of jhumming (ibid, 1989) accepting the adverse impact the practice has had on the immediate environs of the area.

In spite of the decline in importance attached to SGs in recent years, the fact remains that North East India is one of the areas where the institution of SGs remains the

strongest in the country. There is the need to document and monitor existing groves and analyse their value for biodiversity conservation, naturally taking the consent of all the stakeholders (Ramakrishnan et.al.,1998). At the same time a system of incentives may be worked into the system so as to reward communities that conserving SGs; given that SGs perform useful environmental tasks not merely for the immediate vicinity but for a much larger audience.

Forest Policy and Possible Solutions

India's new National Forest Policy of 1988 is set to make amends for past lapses. Among the thrust areas, the Policy seeks (Ahmed,1997):

- a) Maintenance of environmental stability through preservation and restoration of ecological balance and protecting the vast genetic resource. Derivation of economic benefit must be subordinated to this principal aim.
- b) Meeting basic needs of the rural and tribal people, especially of fuelwood, fodder, non timber forest products and small timber in keeping with the carrying capacity of forests.
- c) Raising the productivity of forests and achieving the policy goal of having 33% of the country's area under tree cover (66% in hill areas).
- d) Encouraging industry to develop its raw material by interacting with the local people and communities for use of the manpower and land through financial and technical inputs as well as buy back arrangements. Monoculture should not be allowed in natural forest areas with rich bio-diversity.
- e) Ensure close involvement of people in programmes relating to the protection, conservation and management of forests.

Significantly, denoting a major shift in the conservation and management of forests from previous policy, the current policy advocates a participatory approach for the first time since 1864 when scientific forestry was initiated started in India (Moosvi,2001). How may this shift in focus of the New Forest Policy affect the NER? It is pertinent to state here that a piquant situation exists: in much of the region control rests with the community and only a small proportion of forests is controlled by the state. While in the rest of India, there is a veritable struggle to empower the community, in the NER the latter already control forests (Datta,2002). In spite of this forest loss occurs. How significantly a participatory approach will affect the region's forests is thus a non-sequitur. Nonetheless the New Forest Policy does have some dimensions that could aid forest management and conservation in the NER.

In pursuance of the policy of creating a massive people's movement with the active involvement of women, the Government of India issued detailed guidelines to all States and Union Territories in June, 1990 encouraging people's involvement in development and protection of degraded forests through Joint Forest Management (JFM) by constituting village level institutions like Village Forest Committees (VFCs) on benefit sharing basis (Ahmed,1997). Not only has the JFM mechanism been enshrined in the National Forest Policy for the first time, for the NER this could have some positive fallout, since though community control of forests has existed since several centuries, the concept of benefit sharing that could boost conservation attempts (in a situation wherein competition among village folk frequently leads to unsustainable harvest) was hitherto missing.

Indeed in the recent past, Government policy stemming from the various National Forest Policy statements have had negligible impact on the NER largely due to the land ownership pattern. On their part the state governments have attempted, though unsuccessfully, to curb shifting cultivation by encouraging alternative methods of cultivation such as terrace cultivation, cultivation of perennial cash crops and horticulture among others. The failure of such measures can be explained by the absence of the community's participation starting from the initial conceptualisation to the actual operation in such schemes.

Management of forest resources on a sustainable basis have to be centred around the costs and benefits to the community, since ownership rights rest with them. At the same time the economics of forest use must be woven into the ecological framework. Given the topography of the NER with 70% of the terrain hilly and undulating coupled with primitive technology and scarce capital, there does not exist much option to shifting cultivation in the hill slopes in the immediate future. It would seem that identifying ways and means of minimising the deleterious effects of shifting cultivation, locally known as jhumming, while retaining the basic features could be the most feasible solution. Along such lines the modified jhum practice being undertaken in Nagaland with support from the Canadian International Development Agency (NEPED 1996) could well be the stepping stone for the NER (Saikia 1998).

Beyond jhum cultivation, a community centred approach to selective utilisation and exploitation of the region's forest wealth is necessary. Where tapping forest resources are a primary source of income, government policy of curtailing its use by legislation may not be very effective particularly when illegal logging by organised groups could exploit the situation. Village folk can and do easily succumb to the lure of quick money offered by timber agents and contractors and allow exploitation of the village forests. In fact in the community forests often competition among the village folk as to the maximum number of trees that can be felled and sold off to saw mills exists. Such competition is a real hurdle to sustainability of the region's forests. At present legislation in the form of a ban by the Supreme Court since December 1996 exists on timber trade from the NER along with the closure of all wood processing factories (Nongbri, 2001). Several state governments, losing out on precious revenue resources that accrue from timber processing have appealed for the removal of this order, and it remains to be seen how long it continues. Rather than such a ban which is by no means a long term solution, the latter must be sought in a scheme that reduces the dependence of the rural population on forests. Government development agencies, in the absence of a well developed non governmental organisation sector, will have to take the onus of diversifying rural economies. Alternatives such as co-operative farming of community forests and plantation of commercially important species that could later be selectively harvested need to be explored. A sort of regulatory mechanism must be mutually worked out by the community in conjunction with forest officials as to the rate of such selective harvest, in the absence of which competition amongst village folk would lead to unsustainable rates of harvest. Such policies must be integrated into the shifting cultivation practice since the latter is not only a method of cultivation but is inter-linked with religious beliefs of several tribal population groups, and doing away with it altogether is virtually impossible. As studies from similar cultural settings in Southeast Asia show, the solution does not lie in disenfranchising shifting cultivators but in

designing new policies that empower local people to manage and utilize their own land and forest resources (Fox,2000).

Given the unique land ownership pattern existing in the NER, bringing about any changes - be they changes in livelihood patterns or institutional changes - is no easy task and will require gradual and sustained efforts. Attempting to overhaul the system may not be desirable as well. For the success of any such efforts to improve the system, the community as the primary stakeholder must be involved in all stages.

The preservation of SGs (functioning in such a manner that the Ministry of Environment and Forest found suitable enough to serve as a model for the rest of the country to follow) and unabated shifting cultivation are examples that show that the results of self governance have been a mixed bag.

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