



A C SINHA

**BEYOND THE
TREES, TIGERS
AND TRIBES**

**HISTORICAL SOCIOLOGY OF THE
EASTERN HIMALAYAN FORESTS**

The book reports on the forest resources of Eastern Himalayan region. It is divided into seven chapters, an introduction, a conclusion, a bibliography and an index. After examining the historical antecedents of the British forest policies, it analyses the issues of tea plantation and tea chest timber, forest reserves and shifting cultivation and timber trade and supply of the railway sleepers. The chapter on the forests in Bhutan is a counter case-study away from the urban-industrial market economy, providing an alternative course of ecological preservation. The conclusion makes a plea that the community control over the forests as it exists in the region is just not enough guarantee for a balanced regional ecology and something more positive and drastic has to be done about it.

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BEYOND THE TREES, TIGERS AND TRIBES

Historical Sociology of the Eastern
Himalayan Forests



DR. A.C. SINHA



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Introduction

It all started with the occasional observations on the tree cover around the highway between Shillong to Gauhati during the last fifteen years. Slowly and slowly, hills have turned naked, trees have become fewer, scattered and younger : thickets have replaced the clumps of trees and settlements have sprung up all around. During the dry days one comes across even clouds of dust. From nowhere a new problem of drinking water in the abode of clouds — Meghalaya — has been added to the list of the urgent issues which are to be attended. Then, one is startled on the paradoxical expression : 'the wet desert of Cherrapunji'. The Government Forest Officials claim not to be responsible for the alleged rape of forests as they hardly control an appreciable acreage of the forests. It is the community, represented by the District Council, which controls and manages the extensive forests as per the constitutional provisions. Elsewhere such as Almora and Garhwal and the Western Ghats the environmentalists are articulating the issue as a conflict between the state control and community interests and demand the forests to be given back to the community as they were in the hands of the local communities in the pre-colonial days. Is it so that the community control has led to destruction of forests in this region? How come, inspite of the large scale deforestation, there is no environmentalist movement worth the name active in the region?

With the above background, we started looking into the literature on environmental movements elsewhere. The emperical evidence suggested that north-eastern scenario did not fall into the national pattern, where the grip of the 'state' was strong on the forests and exploiters were invariable 'non-local' industrial interests. That took us to the archival forest records maintained

by the Government. We are not historians trained in historiography and, thus, we have our limitations to record the sequence of events in time perspective. Our concern has been to understand the vital social processes affecting the community life in a decisive way, as we claim to be the students of historical sociology. The present study may be seen in the sociological tradition of peasant and subaltern studies, which have drawn heavily on social historical data to reconstruct the role of peasantry and voiceless under-dogs (subalterns) in the struggle for a better deal.

With a view to focusing on the historical sociology of forests of the North Eastern Himalayan region, we have analysed the physical features, natural vegetation and pre-colonial economy of the region in the first chapter of the book. The second and the third chapters report on the introduction of British Forest Administration, creation of forest reserves, efforts to increase forest revenue, supply of the tea-box, timber and railway sleepers, and the policies towards wasteland, grazing and shifting cultivation. The British colonial policy in general and their revenue and forest policies in particular seem to have affected the local socio-economic autonomy of the relatively smaller ethnic groups and tagged them to the World-wide capitalist industrial economy. The readings in the historical sociology of the regional forests all through the British period highlights three themes continuously: tea plantation and tea box timber, forest reserves and shifting cultivation and timber trade with special reference to supply of railway sleepers. We have taken up these three dominant themes one by one for analysis.

The chapter four on 'Tea plantation and Forest Reservation' reports on the dominant colonial concern to introduce profit making tea cultivation as European enclaves, its consequent increasing demands on regional resources in general and *simul* timber in particular for the tea chests and resultant Abor expedition of 1911-12. We have examined in this chapter how apparently conflicting British strategic and commercial interests worked hand in hand to incorporate the timber bearing community forests of the present day of Arunachal Pradesh. The parts of the problems created by this expedient encounter remains unresolved till today as the boundary and forest disputes between

the states of Arunachal Pradesh and Assam.

The British identified *sal* as one of the most valuable trees in Assam required for the railways. It was found on the north-western part of tropical Assam in the districts of Kamrup, Goalpara and Garo Hills. *Sal* was declared as a reserve tree, which meant nobody could cut it without paying taxes to the Government. *Sal* bearing areas were declared as the reserve forest but this decision was coupled with forced and unpaid labour in Garo Hills. Further more, the *Jhum land*, which was waiting for its turn for the rotational cultivation, was declared as wasteland, on which the Government established its authority as per rights of conquest. Unlike the adjoining Kamrup and Goalpara plains, the Garo economy in the hills was entirely dependent on forests. Thus, chapter five describes the practically successful Garo movement for the dereservation of the forest, the only forest movement from the region, which links it to other similar movements elsewhere in India.

The British Forest administration was continuously concerned with an increased revenue from the forests. For that timber trade was encouraged in terms of railway sleepers and tea-boxes. Assam had little tradition of professional timber cutters. In such a situation the sawyers were brought from Nepal and Chotanagpur. Side by side the Nepalese got settled as graziers-herdsmen-on the wasteland. With a view to easy availability of the inexpensive labour forest villages were settled on the forest reserves, causing serious ethnic problems for the future. It is rather intriguing that inspite of extensive timber and lack of labour force, it was never contemplated to introduce mechanical timber cutting, as it necessitated economic investment. Chapter six examines the issue associated with timber trade, revenue and forest labour in the regional forests.

The last chapter is a counter case study in forest management from the adjoining Bhutan. Some way or other, the British failed to extend their direct commercial exploitation to Bhutan and were satisfied with a level of political control on the newly established principality. It required rather heavy investment in development of communication network in Bhutan for exploiting its natural resources for which the British were reluctant. Though the Bhutanese were more than willing and soliciting to

invite the British investments in the hills, the British thought it inadvisable to invest in Bhutan after the First World War (Sinha A.C. 1991 A). By the time, the Bhutanese introduced modern forest management, the British had gone away from the regional scene. The Bhutanese are conscious of their forest wealth and are proceeding cautiously in retaining two-thirds of their land under forest cover.

The conclusion on the 'Forest': 'Beyond the Trees, Tigers and Tribes' sums up the total perspective of the regional forests. The title owes its origin to Anil Agrawal's address (Agrawal, A: 1984) to the social scientists in the form of the Fifth Vikram Sarabhai Memorial Lecture in New Delhi. Here we have tried to see our study in the light of the environmental and ecological movements and debates going on in various parts of India. Among the various issues of ecological significance, communal subsistence control over forests against the commercial exploitation under the state control is strongly recommended. In the light of our study, where bulk of the forest is under community, we have found that this panacea of communal control over the forest resources has completely failed to safeguard the forests. We felt the need to raise certain pertinent questions: Is the community control on the forests in itself a guarantee to the reasonable ecological preservation? Has the community control on the regional forests fore-stalled the on-rush of the commercial loot of the timber, poaching of wildlife and wanton destruction of other natural resources? Who controls the forest resources in the name of the communal control? Is the traditional legal communal control over the resources such as forests a possible answer to the forest depletion or an awareness, a concern and a mass movement for a balanced environmental preservation is the demand of the time?

Popularly, the environmental study is identified with exotic issues of preservation of rare trees, endangered tigers and vanishing tribes. The present study suggests that the above notions are faulty and the forests refer to a much more wider horizon than any one of the above or even all of them taken together. Not only that; the forests sustain the environment in which a happier and prosperous future of the mankind is envisioned. The study owes its origin to a number of persons,

who inspired, encouraged and goaded the author to reflect on the forests history of the North Eastern Frontier region. My brother, B.P.N. Sinha, a trained forests administrator, who was posted to Bhutan in the early 1970's to develop the Bhutanese forests, made me aware of the relative social and scientific significance of forests in India and Bhutan. Prof. Richard Tucker, a friend for a decade, who teaches environmental history at the University of Michigan, U.S.A. encouraged me to examine the regional tribal economy in close proximity with that of the forest resources. Anil Agrawal, an old associate of over two decades, provoked me to think of writing on the regional forests through his occasional 'out burst' on inactivity of the academics. My students of 'Cultural Ecology of the Eastern Himalayan Frontiers' course during Spring Semester, 1989 University of California, Santa Cruz, U.S.A. led me to examine the larger issues of cultural resources, environment and small ethnic groups. In an informal talk with James O' Connor, editor of *Capitalism, Nature Socialism*, (Santa Cruz, U.S.A.) in April, 1989 on the nature of the community control of the Eastern Himalayan forests, the paradoxical status of the regional forests emerged vividly.

Chapter four on Tea Plantation and Forest Reservation was published in the *Socio Science Probing* Vol. 3(2) and chapter seven on Forests of Bhutan was included in an anthology *History of Forestry in India*, Indus Publishing Co. New Delhi. We thankfully acknowledge the permission from the two editors to include those sections in this book. Chapter six on Timber Trade and Forest Administration was presented at the Session on the History of Forest Economy in the *Pacific Science Congress*, held on May 27 to June 2, 1991 at Honolulu U.S.A. As it is yet to be published in proceedings of the Congress, we have taken liberty to include it in the volume. The historian colleges of the North-Eastern Hill University, Shillong — Prof Imdad Hussain, J.B. Bhattacharjee and Milton Sangma — gave their patient ears to an 'uninitiated' in their historical preserve and provided the author with all the archival data available with them. Prof. R. Gopalkrishnan, Dean, School of Earth Sciences, NEHU, Shillong readily agreed to provide the relevant maps for the book. A. Dkhar and R. Dutta typed and N.P. Sharma assisted in preparing the manuscript. To Mr. A.H. Choudhary, special officer, Archives,

Assam state Archives, Dispur Gauhati, I am obliged for providing all necessary assistance. We profusely thank all of them. Lastly, I shall like to express my thanks to Mr. Narendra Kumar, Publisher for bringing out the book so quickly.

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Chapter One

Physical Features, Natural Vegetation and the Pre-Colonial Economy of North Eastern Frontier

The Himalayas — the abode of the snow — is the rampart and fosses of the giant ranges wall off the Indian sub-continent from snow bound Central Asia. Its massive ranges extend from Gwador (South-Western Arabian coast in Pakistan) in the west to the Mizo-Arakan ranges (on the Bangladesh south-eastern border) in the east, measuring more than 5,500 kilometres. Of this the Western wing Baluchistan and tran-Sindhu (Indus) upto the syntaxial bend at Nanga Parbat in Kashmir is 1,500 kilometres. The eastern wing from Namcha-Barwa (on Arunachal-Kham border) to the Mizo Hills is 1,000 kilometres and the Central Himalayan arc is 2,500 kilometres (Bose, S.C. : 1972: 11). Though the width of the Himalayas varies from area to area, the great Himalayan arc between Nanga Parbat to Namcha Barwa or between the Indus and the Brahmaputra bends has an average width of about 200 kilometres. Normally the Himalayas are divided into three major regions: Western Hills and ranges in the Indus encatchment area (now in Pakistan and Pakistan occupied Kashmir), the Central Himalayan arc of the Ganges, and the Eastern Himalayas drained out by the Brahmaputra and her tributaries. The Central Himalayan arc or the Great Himalayas has further been divided into three: the western, the central and the eastern. The central zone of the Great Himalayas extends from the Yamuna-Sutluj-divide to the Koshi-Tista water-shed in the east forming the eastern limits of Nepal.

The Great Himalayan arc is further divided into three distinct parallel systems from north to south on the basis of physiography: the Great Himalayan ranges, the Inner Himalayas, and the Lesser Himalayas, — *bhabar, terai, duars* or the foot hills. While the greater Himalayas is snow bound northern tundra type high topography above the snow line, it covers all the world famous high Himalayan summits such as Namdadevi (26,645 ft.) Kemet, (25,447 ft.), Everest (29,028 ft.), Kanchenjunga (28,146 ft.), Chomo Lhari (23,997 ft.), Namcha Barwa (25,445 ft.). There is little permanent human settlement in the virtual snow desert except occasional transhumance herdsmanhip. However, the region is the last haven for adventure seeking mountaineers. It also abounds in varieties of rhododendrons and alpine coniferous forests. Most of the snow-fed rivers originate in the region and there are passes to cross from north to south such as Niti, Chumbi etc.

The inner Himalayas is the real flat valley interposed between the mountain ranges and forested mountains. In between there are extensive valleys such as Kathmandu, Thimpu, Tongsa, etc. which are undulating pastureland thickly populated and known for ancient civilizations such as Newaris in Kathmandu valley. There are rich alpine forests and all types of tropical and winter crops are grown in the valley and river banks. But the rivers are fast, meandering and unfordable. The bulk of the people are peasants but many of them subsist on grazing and transhumance. The Garhwalis, Kumayunis, Gurkhas and the Bhotias have tradition of marshal race and are reputed soldiers. The topography of the region conditioned the residents in such a way that they developed fighters 'instinct' leading to establishment of numerous small principalities such as **Chaubis** (24 principalities) or **Baisis** (22 principalities). At least three of them Nepal, Sikkim and Bhutan could survive till 1975 and first and third among them have become independent nations, the only Hindu and the only Lamaist monarchies in the world. As bulk of population belongs to marginal farmers, who are polygamous with numerous children, the forests are turned into agricultural field. However, agricultural technology is primitive, plots are uneconomic and agricultural investment is next to nothing leading to large scale erosion of the top soil because of repeated

cultivation. Consequently, the inner Himalayan region is ranked among the least developed countries of the world.

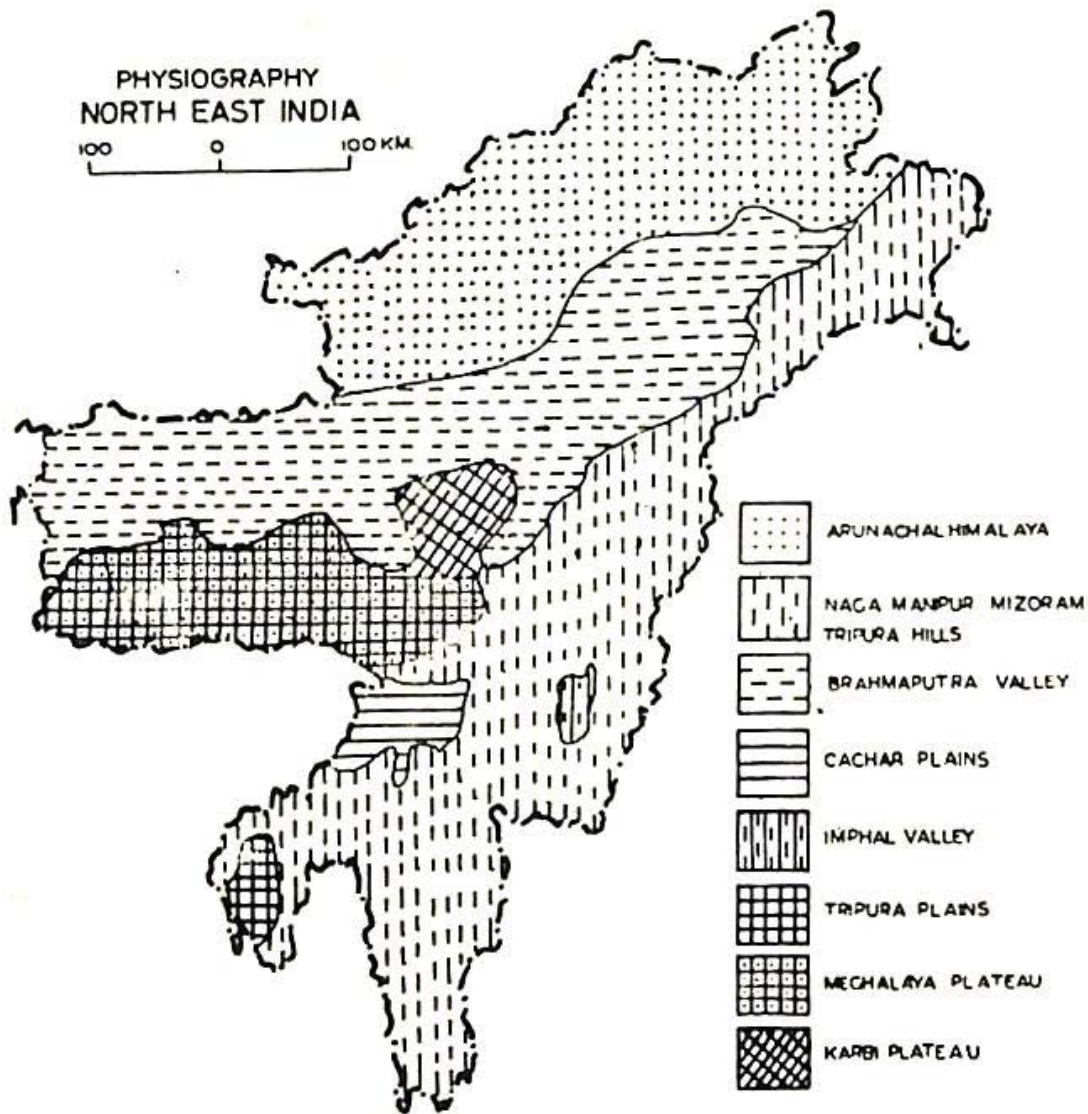
The foot hills are low ranges running from east to west south of the Inner Himalayas consisting of boulders, moraine and sandy soil, on which evergreen tropical forests abound. It was known as "negative zone", because of its unhealthy climate. Moreover, the evergreen forests abounded in ferocious wild animals, besides being hot, humid, and malarial (Sinha A.C. : 1987:337 Karan, P.P. : 1963: 11). There was no permanent human settlement except some wild tribes such as Tharu, Koch, Mech, Toto etc. The hill principalities and tribes such as Gurkhas, Sikkimese, Dukpas, Nishing (Daflas), Adis (Abor) were in habit of raiding the settled Gangetic and Brahmaputra plains for capturing slaves to work in the inner Himalayan agricultural fields. All these came to an end with establishment of the British empire in India. It took the British roughly 75 years between Nepal war of 1813-14 to 1888, when Sikkim was finally turned into an Indian protectorate, to bring the Himalayan foot hills from Murree (now in Pakistan) to Sadiya on Arunachal borders under an effective British control. The British did realise the economic significance of the region. With the establishment of law and order, the jungles in the foot hills were cleared first in Nepal terai by the land hungry agricultural communities from the Gangetic plains (Gaige, F : 1975). There was a growing demand for sal timber for the railways. There were two significant developments effecting the Himalayan foot hills. Firstly, the British felt the need of health resorts in the cool, rarified mountain air of the Himalayas. That is how Murree, Dalhousie, Dehradun, Simla, Mussoorie, Nainital, Ranikhet, Darjeeling, Kalimpong etc. were developed as summer hill stations on easy communication networks with plains for the British bureaucrats. Secondly, by the middle of the 19th century, it was realized that the Eastern Duars were ideal landscape for cultivation of tea plants. Thus, there was a mad rush from Lakhimpur, Darrang, Goalpara, Jalpaiguri, Darjeeling, Dehradun to Kangra for clearance of the forests, which were settled as wasteland to the planters. Incidentally, the third quarters of the last century saw the introduction of forest reservation in India with a view to ensuring timber supply for the urban industrial purposes. In the

process, precious forests in the region were reserved as the Government property.

From another angle the Himalayas may be examined. There are four significant cultural processes operating in the Himalayas. Firstly, all along the northern Himalayas, Lamaist Buddhism developed in Tibet is prevalent from Arunachal Pradesh to Ladakh on the Southern fringe of the Tibetan plateau. Secondly, Hindu ethos and social intercourse is evident from Kashmir valley to Bhutan Duars on the southern slope of the Himalayas inclusive of Himachal, Uttar Pradesh and Nepal in the Inner Himalayan zones. Thirdly, flow of culture from the west in the form of Muslim-Persian character is dominant in the Kashmir valley. The Sindhu-Ganges water-shed remains in a way its eastern limit. Fourthly, a basically animistic tribalism prevails predominantly in Arunachal Pradesh, which progressively decreases westward and is found mainly upto Limbuan i.e. eastern Nepal, (Sinha, A.C. : 1983 A : XXIII). In a way, these four cultural processes broadly coincide with that of the northern, southern, western and eastern Himalayan zones respectively.

A. THE EASTERN HIMALAYAS

Between 86°E and 88°E, the general character of the Himalayas changes so much that a new region of the Eastern Himalayas is warranted. Moreover, the Himalayan region just north of the Gangetic delta between the Rajmahal Mills and Shillong plateau is exposed to the direct impact of the monsoon causing high and dense rainfall and wet tropic evergreen jungle. The intensity of rainfall increases eastward upto the tri-junction of the eastern limit of the Himalayan arc, Patkoi ranges and the Brahmaputra valley and so intense is the vegetation. Compared to its Western and Central counterparts, the Eastern Himalayas is less high. Similarly, because of high precipitation, the snow line is higher upto 14,000 in the Himalayas in the east. The region may broadly be divided into : (i) the eastern part of the Great Himalayan arc, (ii) the eastern hill ranges comprising Patkai-Manipur-Mizo-Arakan-Chittagong Hills, (iii) Shillong-Mikir plateau and (iv) the plains of the Brahmaputra and Barak valleys



Map. 1

(See the Map 1).

(i) The Eastern Himalayan Arc : This sub-region extends all along the Great Himalayan ranges in the north from Singalila ridge to Donkhya range (15,000-17,000 ft.), to Chumbi valley to Chomo-Lhari (23, 930 ft.), to Kulakanari (24,749 ft.) to Kangto (23,255 ft.) to Gorichen (21,445 ft.) upto Namcha Barwa (25, 450 ft.) in the farthest north-east bend and then to the Duars in the south from Darjeeling to Tirap-Lakhimpur. Again it may be divided into Tista encatchment area (Sikkim and Darjeeling), Bhutan and Arunachal Pradesh. So far Sikkim and Bhutan part of the sub-region is concerned, Karan (Karan, P.P. : 1963 : 1967)

has made a detailed study. The syntaxial bend of the Himalayan chain may be seen in the south-east in Lohit district and Tirap district of Arunachal Pradesh. The altitude decreases north-eastward from Tawang in Kameng district to Siang in south-east. The average elevation in the Greater Himalayan zone is above 21,000 ft. above sea-level, while in Siang district in the south-east the average elevation is about 17,000 ft. above sea level. In such a situation, while the Great Himalayan zone has coniferous forest, the inner and the foothills have compact deciduous and evergreen forests.

(ii) The Eastern Hill Ranges-or Indo-Burmese Hills Ranges : These hills start from the Dihing-Lohit knot between Siang and Burhi-Dihang rivers, from where the ranges appear to radiate west wards. While the Namkin mountains turn east, the southern ranges from the knot are known as the Patkai, forming the Indo-Burmese border. The Patkai ranges are of lower elevation increases eastwards upto the international boundary. The Barail range enters the state of Nagaland at the south-west corner and proceeds upto Kohima before turning eastward to Manipur. This range divides the state into north-eastern and south-western halves. While the north-western part of the state is dissected by Dikhu, Janji, Disoi and Dhansiri rivers, the south-western part cuts inter-montane tract. The Patkai ranges have Saramati (12, 500 ft.) peak on the international border and Japvo near Kohima is the highest peak in the state. The Barail range turns westwards to North Cachar.

The Patkai ranges extended into state of Manipur enclosing Imphal valley and loosing elevation while entering Burma. The area is dominated by deep gorges and steep slopes. The western offshoots of the Patkai enter Mizoram in the form of parallel north-south westwards to northern Tripura and Chittagong hills. One long arm of it stretches away south and south-eastwards into Arakan ranges, whose extreme northern hills are lost into Mizo hills. The western spurs of these hills are covered with forests of fine timber, but on the east, the bamboo is the principal growth. With a monsoon rainfall upto 100 inches, the hills have a heavy cover of forests, ranging from tropical evergreen with giant dipterocarps in the wetter and lower south, through monsoon deciduous forests, to some pine and even grass on the

highest ridges. But these forests have been much affected by jhum cultivation resulting in very dense secondary scrub-jungle and vast stretches of bamboo (Spate, et al : 1972 : 606-607).

(iii) Shillong Plateau or Meghalaya-Karbi Plateau : It is the North-eastern extension of the Deccan Peninsula separated by the Gangetic delta between the Rajmahal and Garo Hills and extended upto the Naga Hills within an area of 10, 590 square miles or 12% of the region. The Meghalaya — the abode of clouds — is normally divided into Garo, Khasi and Jaintia Hills — the tribal divisions — is in fact on compact geographical unit. It is almost a rectangular block of 150 by 60 miles with the highest elevation at Shillong (6,432 ft.) and Nokrek (4,631 ft.) peaks. The plateau rises abruptly to above 3,000 ft. from the delta plains in Bangladesh, loses its elevation to the Brahmaputra plains through a series of isolated hills and it is deeply dissected because of high precipitation. Its eastern extension is separated by Kopli gorge in the west and Dhansiri river system in Nagaland in the east turning it into a circular shape. Meghalayan plateau with its appropriate Sanskrit name (Chatterjee, S.P. : 1936) is reputed to be under heavy forest with pines on the higher sides but elsewhere it is covered with a mixture of woodland and secondary bushes because of repeated jhumming. It is reputed for its rhododendrons, orchids, a variety of flowering plants and bamboos, potato, chillies, orange and ginger are the chief cash crops, cultivation of which is leading to erosion of thin top soil.

(iv) The Plains of the Brahmaputra and the Barrak valley : The river Brahmaputra — the mythological son of the creator Brahma — the master-stream is claimed to be one of the most astonishing rivers in the world. It originates near Mansarowar lake in Tibet, flows as Tsangpo almost parallel to the eastward Himalayan arc upto Namcha Barwa, turns south-west and then moves westerly almost parallel to its northern Tsangpo branch for better than 500 miles upto Dhubri and finally takes a southern bend to meet Ganges near Goalando in Bangladesh. At the higher altitude it receives massive dose of snow melt water after its Dihang-Dibang-Lohit confluence some 900 miles from the sea, it enters the land which receives the highest rainfall in the world. The valley named after it or Assam proper extends some 600 miles east to west and 60 miles north to south and is in fact,

a gift of the river, as it is formed out of the alluvial soil. The river has as many as 125 tributaries. "Due to conditions of slopes, the north bank tributaries are very active and carry usually heavy load of boulders, pebbles and silt. This is added by heavy precipitation in the entire catchment area. Besides this, as the area lies within the seismic belt and with large scale deforestation, the erosion activity of these rivers has been further intensified. As a result, the alluvial fans are a common feature". (Gopal Krishnan, R : 1991 : 65-66). The extensive part of the such river banks are covered with sal forest and tall reed jungle in the swamps, which is inhabited by a rare animal specie of one-horned rhinoceros.

The Barak or Surma Valley covering 16 per cent of the region in its south-eastern portion is, in fact, an extension of the Gangetic delta. The Barak itself rises in Senapati district of Manipur in the Barail ranges, takes a western course and then a big U-turn before entering the Cachar plains on way to Sylhet in Bangladesh. The Barak has a sluggish meandering course with a number of ox-bow lakes and *bhils-swamps*. The vegetation is similar to the Brahmaputra valley, but on the thinner side with preponderance of bamboo and cane-brakes. The Imphal Valley or the Manipur plains is a lacustrine product like Kashmir Valley with numerous depressions, marshes and lakes. One of the unique features of the physiography of the Brahmaputra and the Barak Valleys is the development of the plantation industry within last 150 years. The tea bushes are spread over 400,000 acres (162,000 hectares) in about 800 tea estates on the higher terraces of plains and hill margins producing over half of the Indian tea produce and employing more than 1,500,000 persons. The development of tea plantation in the region has a bearing on the environment in general and forests in particular, which we shall examine in chapter IV ahead.

Some broad generalisations may be made on the basis of above presentation. Firstly, a distinct North-Eastern Frontier Region of North East India excluding Sikkim, Darjeeling and Bhutan has emerged as significant geo-political entity in the Indian context. Secondly, North-East India consisting of the Seven Sisters (Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland and Tripura) has evolved its strategy of development in terms of its physical features and natural

resources. With that the region has the following sub-divisions: (i) the area of attraction — the Brahmaputra and the Imphal Valleys; (ii) the area of comparative isolation — Meghalaya—Mikir plateau; (iii) the area of comparative isolation — the Patkai and Barail ranges; (iv) the areas of isolation—Arunachal Pradesh and (v) the areas as the gateways — Goalpara, Cachar and Lakhimpur districts (See the map 2). Thirdly, the region as such has strong cultural, Linguistic, ethnic and vegetation links with both South-east Asia (Burlings, R: 1965) and India (Chatterjee, S.K. 1951) from the very beginning of the human history. And lastly, the region, as it remains today, has variously been organised and re-organised since 1826 to 1947, when it was better known as Assam plus princely states of Manipur and Tripura.

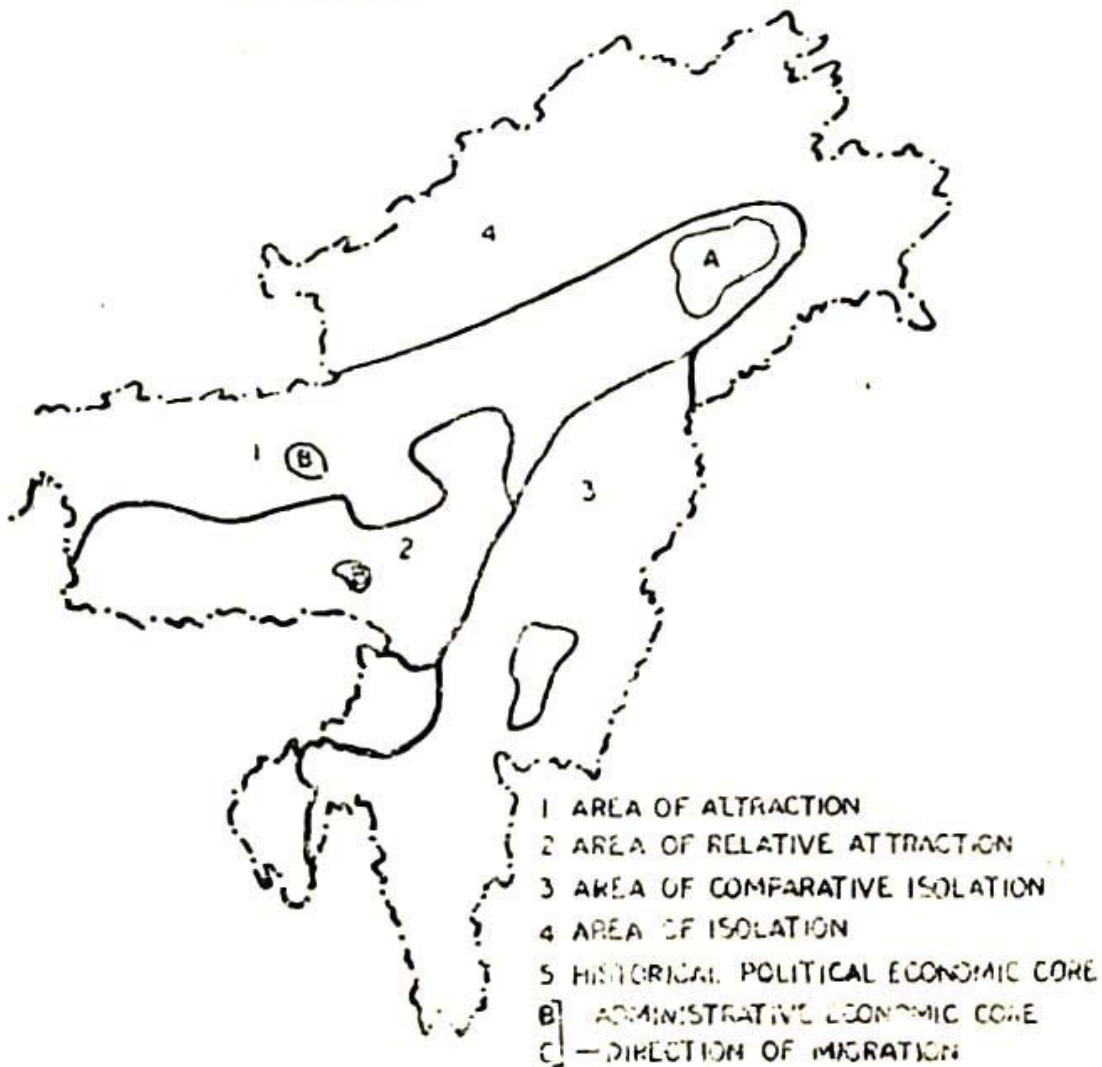
B. THE NATURAL VEGETATION

The forests, the green gold of the nature and largely dependent on the physiography of the land, may be classified in a number of ways such as by composition, legal status, ownership, exploitation and functions. Among them, the first two, the classification by composition and legal status are the most significant and we shall examine the forests of the region from these two points of view.

FOREST COMPOSITION IN THE REGION.

Dietrich Brandis, the Inspector General of Forests, paid a visit to Assam in 1879 and wrote his famous "Suggestions regarding Forests Administration in Assam." He described seven types of forests in the Province: Savannahs, Sal, Sissu and Khair, mixed deciduous, evergreen, bamboo and cane-brakes. This was followed by his successor, B. Ribbentrop, in 1889, who filed a "Note on an Inspection of the Forests of Assam" (Ribbentrop, B: 1889). In terms of classification of the forests, he retained the seven fold divisions of the Province proposed by his predecessor and added an eighth one, the pine forests. Some five decades after Ribbentrop, M.C. Jacob, Deputy Conservator of Forests, Assam prepared a report in 1940 (Jacob, M.M.C. : 1940) and revised the above typology in the following manner: Sal,

NORTH EAST INDIA TYPOLOGY



Map. 2

evergreen, mixed deciduous, Pine, Riverrine, highland savannah and lowland savannah.

(i) Sal forests : Sal forests are found in the areas where the annual rainfall is below 80 inches, or if more and the sub-soil drainage is excellent. Such a situation is found in the Himalayan foothills of Goalpara and Kamrup districts and Shillong plateau extending from Mikir Hills to the western edge of Meghalaya. Sal forests have suffered greatly because of the practice of jhumming found among the hill tribes as an agricultural pattern. Such areas, were declared as the forests. The story of sal-reservation in the Garo Hills and consequent agitation to declare them dereserved will be unfolded in the fifth chapter. A tram service was

introduced after the first World War with a view to extracting sal timber on the Goalpara district for supplying them as the railway sleepers. Just before the second World War, about two million four thousand, c.f.t. of sal timber was exploited in Assam in 1937-38. At that time the province had 177,000 acres of Sal Reserves, distributed in seven forest division of lower Assam.

(ii) Evergreen forests : They are found in the hills where rainfall is upward of 80 inches and in the plains, where subsoil permits of the retention of water near the surface. The whole of Upper Assam with the exception of Savannah and bamboo forests are covered with evergreen forests. Similarly such forests skirt the Himalayan ranges. These forests exhibit a great variety of character in vegetation. However, certain trees such as Nahor (*Mesua Ferrea*) are found in all evergreen forests. A large amount of jhumming takes place within these forests and fire does not spread because of the wet-evergreen vegetation. Jacob divides them into two : (a) Highland evergreen and (b) Lowland evergreen. The former are spread in Sadiya, Lakhimpur, Darrang, Sibsagar, Nowgoang and Cachar Divisions and abound in Hollock, Cham, Amari, Gonseroi, Nahor, Surjan, Spoas, and Sundi species of trees.

The lowland evergreen is found on the fringes of smaller streams, ravines, bhils and swamps. With the exception of Ajhar (Jarul), very few important timber trees are found among them. Unlike the sal forests, there are rarely 10 to 15 trees per acre of the same species in these forests. However, certain significant timber trees such as Hollock, Hallong, Nahor, Bonsum etc, have been identified lying at the foothills in the Arunachal Pradesh and efforts have been made for their extraction for the saw mills. The eastern most tip of India in Arunachal Pradesh abutting China and Burma, known as Namdhapa wildlife National Park, is spread in Lohit and Changland districts. The Zoological Survey of India found in 1982, 60 percent of its birds and animals belonging to the most endangered species and proposed to the Government to declare it a biosphere reserve for the rare flora and fauna.

Indiscriminate felling of the trees and large-scale soil erosion because of heavy precipitation leading to water-scarcity at Cherrapunji have attracted world wide attention. Cherrapunji

highland evergreen forests have come to be known as the 'wet desert' because of the fact that the bare hillock have already been washed away the limestone rich top soil at the rate of 300 tonnes per year. Alarmed with the barrenness of the World's wettest place, the local Government has proposed a project to 'regreen' Cherrapunji. The forest department of the state government had identified eight species of trees including the Khasi Pine for planting in the bleached soil as part of the restoration of ecological balance of Cherrapunji.

(iii) Mixed Deciduous Forests : These are found all over the region on the outer fringe of the evergreen forests and on the drier ridges. Constant jhumming has transformed an extensive part of such forests into inferior bamboo and savannah grassland. The most common species in lower Assam are Makria (*Sachima Wallichii*), Siola (*Lagerstroemia parviflora*), Akshi (*Dillenia Perrtagyna*), Satian (*Atstonia Scholaris*), Paroli (*Stereopermus chelonoides*), Simul (*Bombax Mallabarium*), Bhelu (*Tetrameles nudiflora*), Haldu (*Adina cordifolia*). The timber from many of these trees are strong enough but they have not been tried as substitute of the commercial timber such as sal. However, simul and Bhelu are used for manufacture of tea chests.

(iv) Pine forests : Such forests are found above an elevation of 2,500 feet above the sea level in Meghalaya, Naga, Mikir, Mizo hills and Arunachal Pradesh. Constant jhumming and firing have destroyed good patch of some of these forests, where hill savannah bushes have grown. There has been limited reservation of the Khasia Pine forests around Shillong with a view to supply the local demands in timber and firewood. Though transportation of such timber to the plains was considered inexpensive at one time, tapping of resin was recommend, but it was soon realized that the pine forests were neither extensive nor old enough to make such an enterprise viable (Jacob; M.C. 1940 : 4).

(v) Alpine Forests : Alpine forests are found in the high altitude Arunachal Pradesh — specially in the upper reaches of Kameng and Subansiri districts. Normally at such elevations, the vegetation is stunted, gnarled and dwarf shrubs with roots... (Gopal Krishnan, R : 1991 : 74).

LEGAL STATUS OF THE FORESTS IN THE REGION

With the introduction of the Forests Act, 1878 in Assam, the forests were examined from legal points of view. Before we analyse the legal status of the Assam forests, certain popular views pertaining to the forests need to be recorded. Firstly, there was a popular opinion that the vegetation grows very fast in the region because of heavy rain and humidity. It was figuratively said : "If you leave your walking stick after your evening walk outside your house in the open, it will turn into a plant next morning". Secondly, it was universally said in an industrially under-developed region such as Assam, there was no market for the timber. Moreover, the forests were located on the geographically inaccessible difficult terrain. On the other hand, the tea plantation in its early years tried to import tea chests from Britain and China. Thirdly, it was believed that there was an acute shortage of labour for timber extraction. Not for nothing that the forest administration in Assam began from north-western corner e.g. Goalpara sal forests which were closest to the industrial market of Calcutta, with labour supply and located on ideal waterways.

The forests in Assam came under effective administration from 1878 and within a few years sal forests were declared as reserves. By 1889, 2,233 square miles of forests came under Reserves and another 323 square miles were declared as the Protected one (Ribbentrop, B : 1889 : 15). After five decades, 6,514 square miles came under the Reserve in the Province, which included 77,650 acres of Protected Forests in Sadiya. As against 20 percent stipulated forest cover of a region at that time Assam had got only 9.7 percent of its total area constituted as Reserves Forests (Jacob, M.C. : 1940 : 1). There are three main categories of forests in Assam :

- (i) **Reserved Forests** : These forests are managed by the trained staff of the Forest Department and Scientific Silvicultural working plan provisions are implemented under the guidance of the experts, who are the Government employees. Besides industrial, commercial and construction commitment for supplying of timber, they are maintained as protec-

tive forests to prevent soil erosion and regulate flood control. Before independence of the country, the Assam Reserved Forests were divided into 11 Divisions : Sadiya, Lakhimpur, Sibsagar, Nowgaong, Kamrup, Darrang, Cachar, Sylhet, Haltuagaon, Kochugaong and Garo Hills.

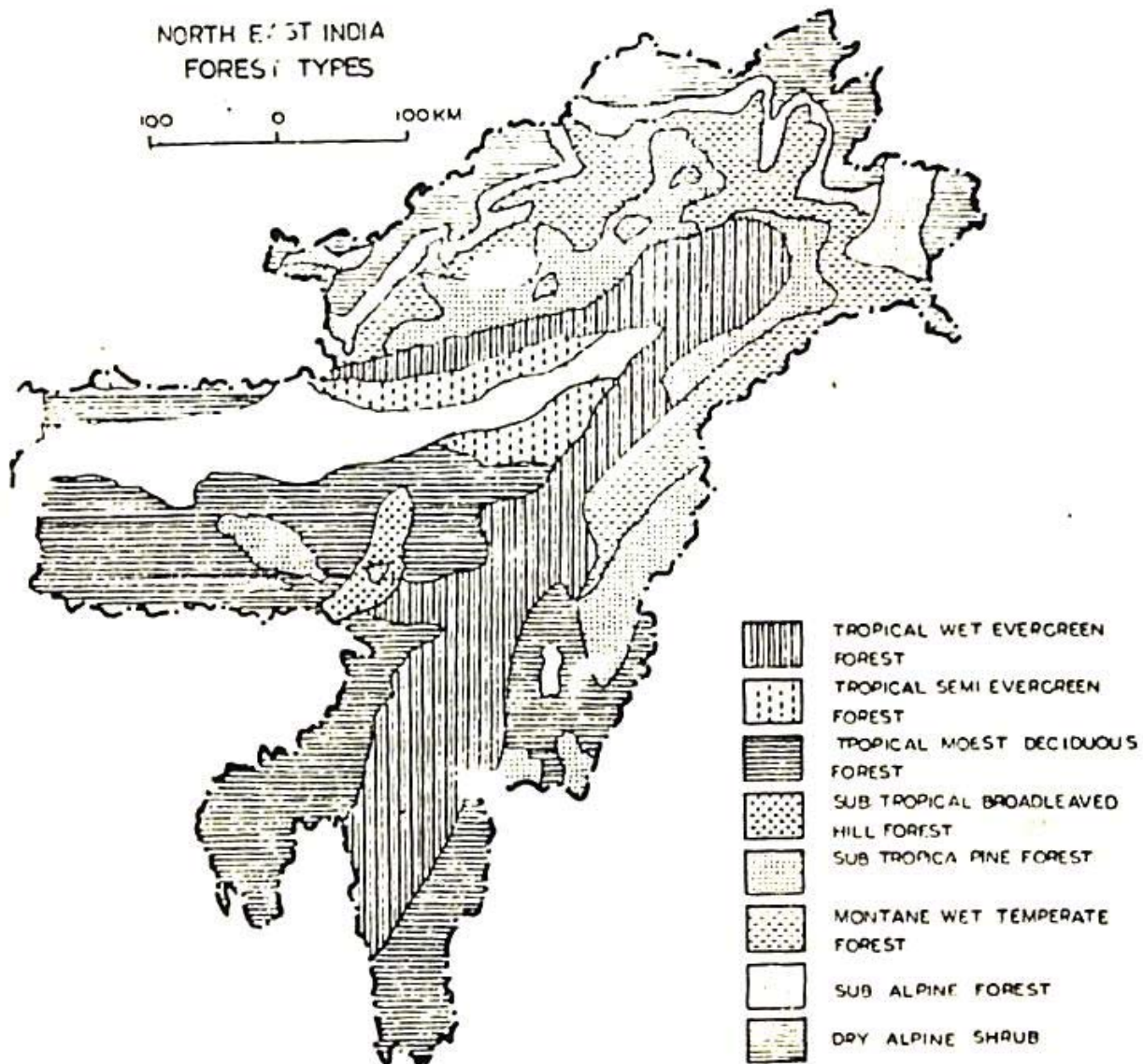
- (ii) Unclass States Forests : These are theoretically under the control of the State Forest Department , but they are governed by the customary laws prevalent in an unregulated state of Assam. In fact, these forests come under heavy jhumming inclusive of even those, which came under the District Councils after independence as they are governed under Sixth Schedules of the Indian Constitution. In March, 1939, such forests were spread in an area of 14,557 square miles in Assam, but they were under heavy threat of deforestation. Even at that time the main factors responsible for continuous deforestation were identified as : (a) indiscriminate jhumming, (b) uncontrolled grazing, (c) indiscriminate felling of the trees by the settlers for house-hold requirements and (d) unauthorised squatting.
- (iii) Protected Forests : Such forests are very limited and trees are granted limited protection. Even the forest officials have restricted authority to operate among them. The following table provides the present statistical status of the forests in the region. (See Map - 3).

Two points need to be noted at the end of the above presentation. Firstly, the forests are located on the geographically difficult terrain such as mountain crests or low lying marshes. The technologically simple tribal communities have made such forests as their abode. In this way forests are located on the interstate boundaries inhabited by the tribesmen leading to interstate conflicts and boundary disputes. Examples from the region are in plenty. The disputes between Manipur and Burma, Manipur and Assam on Cachar forests, Meghalaya and Assam, Nagaland and Assam, Assam with Arunachal Pradesh and Assam with Mizoram may be cited. The worst example of such a dispute leading to armed clashes between Nagaland on one side and Assam on the other occurred in the Marapani forests on the Dhansiri river requiring the Central Government to station its

Table 1
 Classification of N.E. Region Forest 1984 - 85

State	Year	Geographical Area	Total Forest Area	Area by Legal Status 2000 hec.				Ownership			
				Reserved	Protected	Unclassified	Other Forest	Forest Deptt.	Civil Authority	Corporated Bodies	Private Individuals
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Arunachal Pradesh	1984-85	83,740	5154.0	1337.0	0.8	3709.9	25.3	1323.1	3790.0	25.3	14.7
Assam	1984-85	78,523	3070.8	1727.7	337.3	1005.8	-	1745.9	138.9	1186.0	-
Manipur	1984-85	22,356	1515.4	137.7	417.7	960.6	-	1515.4	-	-	-
Meghalaya (Sq. Km.)	1984-85	22,429	851.4	70.6	1.2	779.2	-	72.2	-	-	779.2
Mizoram	1984-85	21,087	1593.5	804.8	164.7	524.0	-	712.7	178.6	702.2	-
Nagaland	1984-85	16,531	862.5	100.4	-	7762.1	-	100.4	-	-	762.1
Tripura	1984-85	10,478	630.9	386.3	386.3	244.6	-	630.9	-	-	-

Source : Ministry of Forests and Environment, Government of India.



Map. 3

own armed forces to defuse the situation. However, the inter-state boundary is yet to be settled. Meanwhile, both the states are reported to be hacking the Reserved forests stealthily to settle their citizens with a view to buttressing their claims.

Secondly, armed insurgents choose forested and mountainous terrain as the areas of their operation from strategic point of view. As most of these insurgent and extreme political groups were recruited from the tribal/local communities, they were better acquainted with topography, vegetation, and overall logistics. The state armed forces, on the other hand, were relatively less sure of local logistics and topographical details. As a

part of their counter insurgency operations, invariably they have caused destruction to forest cover. Examples of such actions may be cited from Nagaland and Mizoram in the past and of late Lakhimpur - Sadiya forests, where ULFA insurgents were reported to be running their regular camps. The issue from our point of view, in either of the cases — insurgency or counter - insurgency — is the forests, which suffer leading to ecological problems.

C. THE PRE-COLONIAL ECONOMY OF THE NORTH-EAST REGION

Broadly speaking from the economic consideration the region may be divided into two : The Brahmaputra, Barak and Imphal Valleys — relatively of intensive agricultural, settled and areas of water managed wet plantation economy and the hill communities resorting to dry slash - and - burnt type of rotational cultivation regionally known as jhumming resorted to with an extremely simple technology. From ethnic, linguistic, cultural and technological points of view the two broad areas were not walled off from each other in the pre-colonial period. Human movements across the valleys and hills were normal activities in spite of serious communicational limitations. The navigable rivers and certain road ways in the plains were the highways extending even across the hills and mountains on certain trade routes. Even the most simple tribes-men resorted to some sort of trading in relatively lighter articles of significant domestic use or of status symbol. The British Governor General of India, Warren Hastings sent George Bogle in 1773 to Bhutan and Tibet with a view to having friendly relations after the Bhutanese-Koch conflict of 1772 in which the British had intervened against the Bhutanese (Markham C : 1773). Within next 50 years, Sikkim, Jaintia, Cachar, Tripura and Manipur came in effective contact with the British. The Burmese invasion of Assam in 1817 culminated in the British declaration of war against the Burmese on March 5, 1824. Within less than two decades Jaintia, Khasi chiefs, Cachar, Manipur, besides entire Brahmaputra Valley came under the British control. Within another fifty years, Garo hills, Naga hills, Mizo hills and parts of Arunachal Pradesh were brought within

the British subjugation. Once the British got a foothold in an area they tried to introduce cash economy in place of the traditional subsistence. The entire revenue system was reorganised, land relations reoriented and all the marketable surplus was channelled to the British industrial estates. In fact, the subjugated areas were turned into suppliers of cheap raw materials for the British industries and the captive markets for the factory produced industrial goods. In the process, the local economy lost its autonomy and was tagged to the apron string of the British metropolitan economy resulting in deflation of regional resources such as forest and minerals. We propose to throw light on such processes in the next chapters. But it will be illuminating to identify the major contours of the pre-British economy of the region.

The Pre-British Economy of the Brahmaputra Valley : The Ahom rule in Assam was based on management of agricultural activities based on a type of serfdom, in which the occupational guilds (*khels*) of the individuals (*pykes*) played significant roles. It is claimed that the khel system was introduced by an Ahom officer, namely Momai Tamuli Barbarua in 1607 during the reign of King Pratap Singha (1603-41). The khel system envisaged that the entire male population of the country with the exception of men of rank, priests and their slaves to be divided into guilds according to the occupations such as *Kharghariea* (gun powder makers,) *sonowals* (the gold washers), *Kaathkatias* (the wood cutters), fishermen, etc. (Barpujari, H.K. : 1980 : 24-25). Such guilds or khels were further divided into *gots* — units — of three individuals (the pykes) such as *mul* (first,) the *dewal* (second), and the *tewal* (third). Every pyke was bound to serve the King either as a private or a public servant for one-third of the year or to supply certain quantity of his produce in lieu of his services. He was entitled to two *puras* (equivalent to 5877 square yards or $3\frac{2}{3}$ Bengal Beegha) of *rapit* (wet paddy land) as body - land (*gam-eti*). During his period of service to the King, the *Dewal* and *Tewal* continued to cultivate their respective *ropit* land provided by the King. They relieved each other at the regular intervals so as to ensure that the King had uninterrupted service. The pykes were supervised by the Boras, Saikias and Hazarikas, who again were commanded by the Baruas, Rajkhowas and *Phukans*, the higher

civil and military functionaries.

The state officials were renumerated with a number of pykes to work on their rent free grants. These officials had two types of land grants : *Nankars* — hereditary - and *manmati* — the one to be used only during the tenure of office. They could occupy free of cost tracts (*khats*) of waste land, where their own pykes, slave or attendants would work on. The state granted a number of rent-free tracts known as *Lakhiraj*. Of these the *debottar* was assigned to the maintenance of the temple and worship of deities; *brahmottar* was allotted to the Brahmins for religious services and in recognition of meritorious deeds; while *dharamottar* was set apart for the support of the *satras* (religious and charitable institutions) and persons attached (Borpujari, H.K. : 1980 : 26). Besides the personal services and articles of produce as the state collected revenue in terms of cash from surplus land rented out the pykes, special professionals such as gold-washers, fishermen etc, markets (*haats*), customs duties (*chokis*), annual tributes from the vassals and defaulting pykes.

Apparently, the state and the ruler required limited amount of money to run the administration as payments to the functionaries was made in kind and services. When special occasions arose, the Kings raised cash taxation by imposing house tax and extra-cess (*barangarni*) from the *shatras* in upper Assam. Robinson wrote in 1841 that the Assamese cultivators, with their imperfect agricultural instruments such as plough, either from insecurity through an imperfect police or from mere customs lived in large villages. They never thought of expanding their capital base because of uncertain land tenure. They were for the most part of poor and oppressed people paying as much as one-fourth of their produce in rent besides other forms of extractions from the state officials (Robbinson, W : 1975 : 217). It was a thinly populated, oppressed, demoralised and extremely poor country in terms of material resources.

The Pre-British Economy of North Eastern Hill Region : We have limited data from the hill communities in terms of economy as they were little exposed to the people in habit of writing on the social institutions and they themselves were in the pre-literate stage of their evolution. However, some broad contours of hill economy may be identified on the basis of the ethnographers

description, as the economy of the hill communities was not drastically altered by the British till 1910's. As a whole all the tribal communities may conveniently be divided into pastoralists, hunters-cum-collectors, jhumias and settled peasantry. In many case, more than one type of the above four were in practice in most of the tribes. However, these were the dominant economic activities. For example, there were only first three categories prevalent in Arunachal Pradesh. Monpa and Sherdukpens were the Buddhist pastoralists with limited jhumming and still less wet paddy cultivation on the river banks. The high lander Nishing, Paurik (sulung), Hills Miris, Boris were excellent hunters, and Mishmis were root collectors. Apatanis and Khamtis were intensive paddy cultivators. Various Adi tribals were jhumias. Singpho used to farm their fields with help of slaves.

On the eastern hills we had all powerful Konyak, Sema and Lushai (Mizo) chiefs, who owned everything within their territories. There were clan based village economic communities among the Aos in the middle and terraced rice cultivation among the Angamis. Khasis, Tripuris, Dimasa-Kacharis and Jaintia had graduated to a level of economic surplus, which could support various forms of principalities. But in most of the cases, the land was communally owned and the individual enterprise was recognised at a dormant level. The Kings or chiefs were paid in kind and services. Though there were status differentials, there was little of economic differentiation in the hills. Most of the hill men were jhumias. As population was scarce and land in plentiful with vigorous growth of vegetation, the jhum cycle was extended upon 20 years. Mountain peaks, hill ranges, rivers and streams, dense forests were identified as the frontiers between the village or tribal territorial limits. Many of the communities such as the Khasis had a tradition of preserving certain patch of trees as sacred groves. The Singphos were known to possess tea bushed and had a limited use for consumption. Mishmis, Khasis, Mizos, Mars used to tap rubber juice. Garos supplied sal timber to their southern neighbours for canoe building and Khasi and Jaintias traded lime, coal, iron, timber, betelnuts and leaves against clothes, dry fish, ornaments, etc.

To sum up, the pre-British hill economy was village based, informal, entirely dependent on the immediate environment

such as land, forests, water bodies and animal lives. It was technologically a simple society with little surplus and specialization of duties. The main stay of their life was on the jhumming in which they used to raise the crops for their consumption. Their needs appeared to be extremely limited, which were satisfied with the produce of their jhum fields. The forests played a very significant role in their lives because the forests provided a universe to them in which they resorted to jhumming, hunted their games; collected fruits, roots, herbs; tapped rubber juice; and caught wild animals for games, trade and exchange. The dominant mode of exchange in their economy was barter of the goods. Of course, coins were known to them, but not as common mode of exchange, but as ornaments and curios. As their economic needs were extremely limited, they were economically autonomous in their relative isolation.

In this chapter we have taken up three issues. Firstly, we have analysed the various aspects of physical features of the Eastern Himalayan region — as part of the Himalayan physiography and as a unique entity in itself. Secondly, we have described the four physical sub-divisions of the region in terms of (i) The Eastern Himalayan arc, (ii) the eastern hill ranges, (iii) the Meghalaya Plateau and (iv) the plains of the Brahmaputra and the Barak Valleys. Thirdly, we have endeavoured to report on the natural vegetation of the region on the basis of the physical features for common readers and not the specialists in sericulture and botany. Fourthly, we felt the need to examine briefly the pre-colonial economic scene of the region, as the British metropolitan economy introduced certain distortion in the regional economy not only through revenue administration and altered land tenure, but it also introduced tea plantation economy and forest farming for timber export at the cost of the local dominant resources of forests. How was the forest policy evolved? How was the forest administration organised? What were the considerations in declaring the forest reserve in the region? What type of relations forest managers and tea planters had? Answers to some of the above questions will be provided in the next chapter on the British forest policy and forest administration.