

**IMPACT OF SUPREME COURT ORDER ON FORESTRY  
IN WEST KHASI HILL DISTRICT, MEGHALAYA**

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Dissertation Submitted in Partial Fulfillment of the Requirement of the  
Degree of Master of Philosophy in Geography

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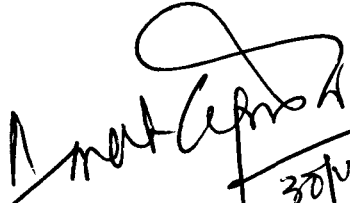
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# North-Eastern Hill University, Shillong

## Declaration


I, Shembhalang Kharwanlang hereby declare that the subject matter of this thesis is the record of work done by me, that the content of the thesis did not form the basis of award of my previous degree to me or to the best of my knowledge to anybody else, and the thesis has not been submitted by me for any other research degree in any other University/ Institute.

This is being submitted to North-Eastern Hill University, Shillong for partial fulfillment of the degree of Master of Philosophy (M.Phil) in Geography.

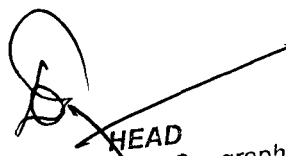


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I am also greatly indebted to my parents for their silent support and inspiration. They have sacrificed a lot to enable me to reach this stage, so I earnestly pray and hope that I will be able to fulfill their aspirations from me and live up to their expectations.

Date: 30/10/06

Place: Shillong

  
Shembhalang Kharwanlang

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## **CHAPTER- I**

### **Introduction**

#### **1.1 Introduction:**

Forest is a renewable resource if properly husbanded, but it becomes a depleting non-renewable resource once the process of deforestation brings the stock and the variety below a threshold. Deforestation does not take long, while a forest takes a very long time to develop into a self contained viable ecosystem. Today there is a great awareness of problem of forests. North Eastern India has less forest cover than it was earlier. During the last one decade the forest cover of the region got depleted at an alarming rate. A satellite imagery survey in 1993 reported a disappearance of 635 Sq. Km. of forest cover in North Eastern India and the process is still continuing. Deforestation and general degradation of forests, encroachment of valuable forest land, illicit felling, interstate boundary disputes and their effect on deforestation, timber trade in the District Council areas, shifting cultivation and forest fire are some of the reasons for the continuous loss of forest cover in North Eastern India.

The increased pressure on forest by wood-based industries and unplanned and indiscriminate felling of trees of trees for various purposes are primarily held responsible for the phenomena. Along with wood-based industries, the shifting cultivation and denudation are responsible for the destruction of forest cover. Without forest, agriculture would die as forest act as a reservoir and pumping station. Without forest cover, there would be nothing to resist soil erosion during monsoon

months. Forest is necessary to maintain the balance in the agricultural system and to increase agricultural productivity.

Earth was covered with diverse natural vegetation prior to human domestication of plant species and invention of agriculture. At that time, perhaps 6 billion hectares of forest covered the earth. The development of agriculture and later on of industries and urbanization has led to the loss of about 2 billion hectares of forest.

Forest provides two kinds of products and services, which benefit human beings.

(a) Forests supply harvestable products, which have direct use value-timber, fuel wood, fodder etc.

(b) Forest provides the non market ecological services-local and global, which are crucial in giving life support to the biosphere, e.g. soil conservation, provision of habitat for bio-diversity etc.

In addition, forest has a major and vital role in enhancing the quality of environment by influencing the life support system and also is intricately interwoven with human cultures.

In recent years, a growing awareness of environmental problems in our country especially the depletion of our forest resources has been in active public notices. All segments of Indian society, peasants, tribals, pastoralists, slum-dwellers and industries have a heavy dependence on the produce of forests, as source of fuel, fodder, construction materials, timber, or raw materials for processing. Therefore, one can say India has a biomass-based economy. The country's forest lands are today

officially and completely under Government control, managed by the state and governed by the rules and stipulation of the Forest Conservation Act (1980) and National Forest Policy.

## **1.2 Literature Survey:**

Relevant studies have been reviewed here to understand the problem in a proper perspective.

**(i) Forest:** “The word forest is derived from Latin root ‘*foris*’ meaning out-doors and etymologically, it is a large uncultivated tract of land covered with trees and under wood” (Chamber’s twentieth century dictionary, 1943). In common language it denotes group or stands of trees in a closed canopy. Willis (1951) defines forest as “a close assemblage of trees allowing no break in the overhead canopy; homogeneous of one species, or diversified”. In the British Common Wealth forest terminology (1953) forest is defined as “a plan community predominantly of trees and other woody vegetation usually with a closed canopy”. Indian Forest Records (new series, 1931), reads, “... an area set aside for the production of timber and other forest produce or maintained under woody vegetation for certain indirect benefits which it provides, e.g., climatic or protective”. World Forest Inventory of F.A.O. (1960) gives the following definition “All lands bearing vegetative associations dominated by trees of any size, exploited or not, capable of producing wood or exerting an influence on the local climate or on the water regime, or providing shelter for livestock and wildlife.

“Ecologically, the term forest signifies a complex organisms, composed of distinct biological units called forest communities, that have come into being by the combined actions, reactions and co-actions of a variety of organisms with the

complex factors of the habitat that themselves change both in space and time” (Pant, 1984).

“Technically, forest has been defined: (a) an area set aside for the production of timber and other forest produce, or maintain under woody vegetation for certain indirect benefits which it provides e.g. climatic or protective; (b) a plant community predominantly of trees and other woody vegetation, usually with a closed canopy; and (c) an area of land proclaimed to be a forest under a forest law” (Sagrieya, 1997).

**(ii) Forestry:** “Forestry is the art and science of creating, maintaining, managing and appraising the forest resources of a place/region/country with the object of producing goods and services on a sustained basis for the welfare of mankind” (Mohan, 1984). “Forestry is the large scale management of trees for commercial or recreational and conservation purposes. Forestry has often been confined to the planting of a single species, such as rapid-growing conifer providing soft wood for paper pulp and construction timber, for which would demand is greatest. It is an example of primary industry. In tropical countries, rapid and unmanaged deforestation as resulted in the destruction of large area of rain forest, causing environmental problem locally and possibly contribution to global warming (Hutchinson, *Dictionary of Geography*, 1995).

“Forestry is the scientific management of forest for the production of goods and services in particular the production of timber crops (wood, resins, saps, extractive and other bard and wood derivative that have commercial value). Forest management is the application of the business methods and technical forestry principles to the operation of forest property” (Michell, 1966). “Forestry is the theory

and practice of all that constitutes the creation, conservation and scientific management of forests and the utilization of their resources to provide for the continuous production of the required goods and services” (Sagreiya, 1997).

**iii) Forest Management and Policies:** “Preservation of forest is essential to solve humanity from scourge of soil erosion, landslides, air and water pollution, floods as well as droughts, advancement of deserts, and other misfortunes arising out of ecological imbalances and environmental distortions” (Bandhu, 1979).

Mahapatra (1997) argued that the forest in Koraput district managed by the tribal people were in much better condition of growth than the forest managed by Forest Department under British Government. Das and Sahu (1997) have laid emphasis on the significance changes, which have taken place in the approach towards the economic ecological system at global, national, and regional levels. While scanning through the utilization of forest wealth during the last four decades the authors have expressed their concern on the extent of officially denuded area of forests for various development purposes, the clandestine removal of forest produce from the ban areas and the fall in out of most of the forest producer.

Bhai (1997) has condemned the new forest policy on the ground that it has overlooked the interest of the poor forest dwellers. He has emphasized that only secure forests which are now under actual tree cover may be owned by the government and for all other varieties of land in forest, land record may be assigned to the forest dwellers taking into account individual and community needs. Shroff (1997) has called for development of social and mixed forestry and emphasized the direct participation of the people in the implementation of these projects.

Maslekar (1983) illustrated that subject of forest management, so far concerned the scientific and technical manipulation of forests is based on principle of sustained yield. Recent years have witnessed a change in thinking forestry all over the world. Forestry does not confine itself to the forest and their biological and scientific management only. Forestry, so to say, has gone beyond boundaries of the forest. Forestry today means conscientious use of forest and forest lands as an important natural renewable resource for the economic and social well being of the nation and its people.

Tiwari (1986) explains that forestry has become an important part of efforts to promote and support rural development. Increasing forest cover would create additional rural employment and help fulfil the basic needs of the rural community. Afforestation programmes need to be stepped-up out-paces the rate of denudation and moreover, tribal development cannot be envisaged without forest development.

Mahapatra (1997) has made a review of various forest policies enunciated from time to time and emphasized how they have always tried to restrict the rights and privileges of tribes on the forest resources. While the other has commanded the people oriented welfare approach of New Policy of 1998, he has also pointed out a number of deficiencies in the new policy to inculcate the spirit of participation of the tribals in the production and development of forest.

Buchi (1997) has suggested to create awareness in the tribals about the hazards of this practice, large-scale plantation of fruit bearing trees ensuring employment opportunities to the resettled tribals and to motivate the tribals to take up settled cultivation to wean them away from this evil practice. Ghate (1992) identified that the



changing forest policy of the government, since the British period, and its economic impact on tribals. Before the advent of the British rule in India, forests were well managed by local tribals with British came the commercial exploitation of the forests in the name of scientific management. After independence also revenue – oriented approach of the government did not change. As of today the forests have degraded to a large extent and the plight of tribals has also worsened. While the government blames the tribals for the degradation and the one hand, tribal feels that it is government's policies that have alienated them from forest on the other.

Sekar (2001) illustrated the impact of the Interface Forestry Programme on the development of Ayyalur degraded forest (Tamil Nadu) and the people settled in the vicinity of the forest, specially the change in vegetation cover at micro-level and project level, the resultant changes of soil and moisture conservation measures and agriculture, the direct benefits accrued to the people and the level of people's participation in various stages of the project. A particular forest management model has been suggested for better management of forest involving village, forest, committee, forest department, non governmental organization, district rural development agency and lead bank.

Thakur (1997) highlighted on various measures undertaken by the state government for checking the evil methods of shifting cultivation and suggested to take up a multi-directional approach to achieve the goal of controlling shifting cultivation. Ganlayat (1997) has discussed the symbiotic between forest and tribals. The author has advocated for massive afforestation and reforestation programme by

careful selection of plant species taking into consideration the local conditions and association the people in the programme.

Nadkarni (1989) provides a unique perspective to the problem of forest use by combining historical analysis with contemporary field studies. It examines the conflict of interests involving the local population, the government and the commercial forces at work in the wider and the local economy. Simultaneously, based on a survey of selected villages in Karnataka, the author highlights the class character of the local socio-economic structure and highly inequitable use of forests by different interest groups. In the process, they show how the bulk of the local population was alienated from the management of forests and how most of the benefit of forests use accrued to the two rich classes of the rural society.

### **1.3 Statement of the problem:**

West Khasi Hills District is the biggest from among the seven districts of Meghalaya. It has an area of about 5249 Sq. Km. This is one of the districts where the cutting of timber for commercial purposes is prevalent. A large number of people in West Khasi Hills are working in forest related activities. Thousand of cubic meters of timbers, firewood, charcoal and broomsticks are exported from the district.

With the Supreme Court's order banning the felling of the trees on December 12 1996, the District Council is loosing its grips on the control and management as many forests are illegally destroyed for timber and burnt to produce charcoal, a minor forest product which is not banned but equally destructive on the forest cover.

Here, the main concern of the researcher is to find to what extent the cover of the forest in the district and to find to what extent the 'forest ban' has led to unemployment and underemployment in the district and thus, the livelihood of the people. Moreover, what are the alternatives being provided after the timber ban? It will be important also to study if there is any push factor arising out of loss of livelihood leading to out-migration of people from the village to the town in searching of jobs. Degradation of forests also will be taken into consideration.

#### **1.4 Objectives of the study:**

The main objectives of the study are as follows:

- (i) To study the forest coverage in West Khasi Hills District, by ownership status and type of cover;
- (ii) The nature and extent of forestry activities in the district and employment and economy based on forests; and
- (iii) To study the problem faced by the forestry workers/mill owners after the imposition of timber ban by the Supreme Court of India (1996).

#### **1.5 Research questions:**

To fulfil the requirement and to derive some conclusion the following research question will be addressed during the course of the study.

- (i) The issue of economic benefits like employment and business activities enjoyed by people of the West Khasi Hills in the pre-ban period.
- (ii) The extent of decline in these activities after the forestry ban came into effect and the consequences on the economic life of the people in the district.

## **1.6 Database and Methodology:**

Data used in this study has been collected mostly from the secondary sources particularly from various departments of the Government of Meghalaya, Ministry of Environment and Forests, Government of India, and other government and non-governmental sources. In the district, it may be noted that the State Government had no forestland earlier and only 31 hectares of the Reserved Forests have been acquired by the State Forests Department, recently. Most of the data are depended on the Khasi Hills Autonomous District Council, that own and exercises jurisdiction over many forests of West Khasi Hills District. The total forest cover, different timber species, revenue, various forests activity, information provided by the State Directorate of Economics and Statistics will be consulted. Moreover, Census of India of either 1991 or 2001 will be consulted for comparison of persons engaged in forestry and associated activities given in the economic tables. Besides these data, information shall be collected from various reports, and journals, in relation with the study.

Since there is a want of information and data regarding the forest in West Khasi Hills District, the most important data collection and information have been collected from the primary sources, which includes, personal field observations and interview with people involved in forestry related activities in some selected villages and locations. After collections of data, tables, maps, diagram, and statistical calculation have also been prepared for better understand of the forest activity and its impact on the economy of the people.

### **1.7 Organisation of the Study:**

For the appraisal of, "Impact of Supreme Court Order ", the chapter scheme has been organized into five chapters.

#### **Chapter I: Introduction:**

This Chapter provides an understanding of the research framework. Forest as one understands is a close assemblage of trees of any size that helps in enhancing the quality of the environment. However, large scale deforestation and encroachment of forest land for various activities have led to the rapid decline of forest cover. Hence, relevant literatures have been reviewed here to get an insight of the problems, related to forest activities, at the national and regional level. The main objective of the study involves an understanding of the forest coverage, nature and extent of forestry as well as the problems faced by the workers and owners of various saw mills and forests with regards to the Supreme Court Ban, 1996. The research questions arising refer to the issue of socio-economic benefits and extent of decline in forest activities due to the imposed ban and hence forms the basis of the study.

#### **Chapter-II: Historical Profile of West Khasi Hills District:**

The study area, West Khasi Hills is the largest district of Meghalaya area wise and accounts for the third largest population size in the state. There is large scale deforestation for forest related activities, hence the importance of the study area. Certain elements like the historical background; physical features which includes physiographic divisions, elevation, drainage, climate; plant and animal community; forest resource utilization; description of the ethnic composition, habits and ways of

life of the local inhabitants; figures of population profile and local governing bodies; have been included in this chapter to get a proper perspective of the study area.

### **Chapter-III: System of Forest Management and Its Implications:**

This chapter gives an account of the pros and cons of forest management and its implication. Referring to West Khasi District, the background of forest management system there has a lot of anomalies. There is no scientific management of forest or proper silviculture techniques to counteract artificial regeneration programmes undertaken by the Forest Department, Khasi Hills Autonomous District Council and there is maximum exploitation of the valuable forest species for commercial purpose. The set of guidelines laid down by the National Forest Policy, 1952 and 1986, forms the basis and general objective for the future management of forest in West Khasi Hills. There is traditional categorization of land use pattern and with regards to the legal position; the locals have access to the forest produce, excepting listed endangered and threatened species, under the Khasi Hills Autonomous District Council's working scheme governed by Act 1958 and Rules 1960. The utilization of forest produce ranges from domestic to commercial purpose and the produce is wide and varied and includes a list of non timber and timber species.

### **Chapter-IV: Economic Characteristics of the West Khasi Hills District and the Impact of the Supreme Court Order:**

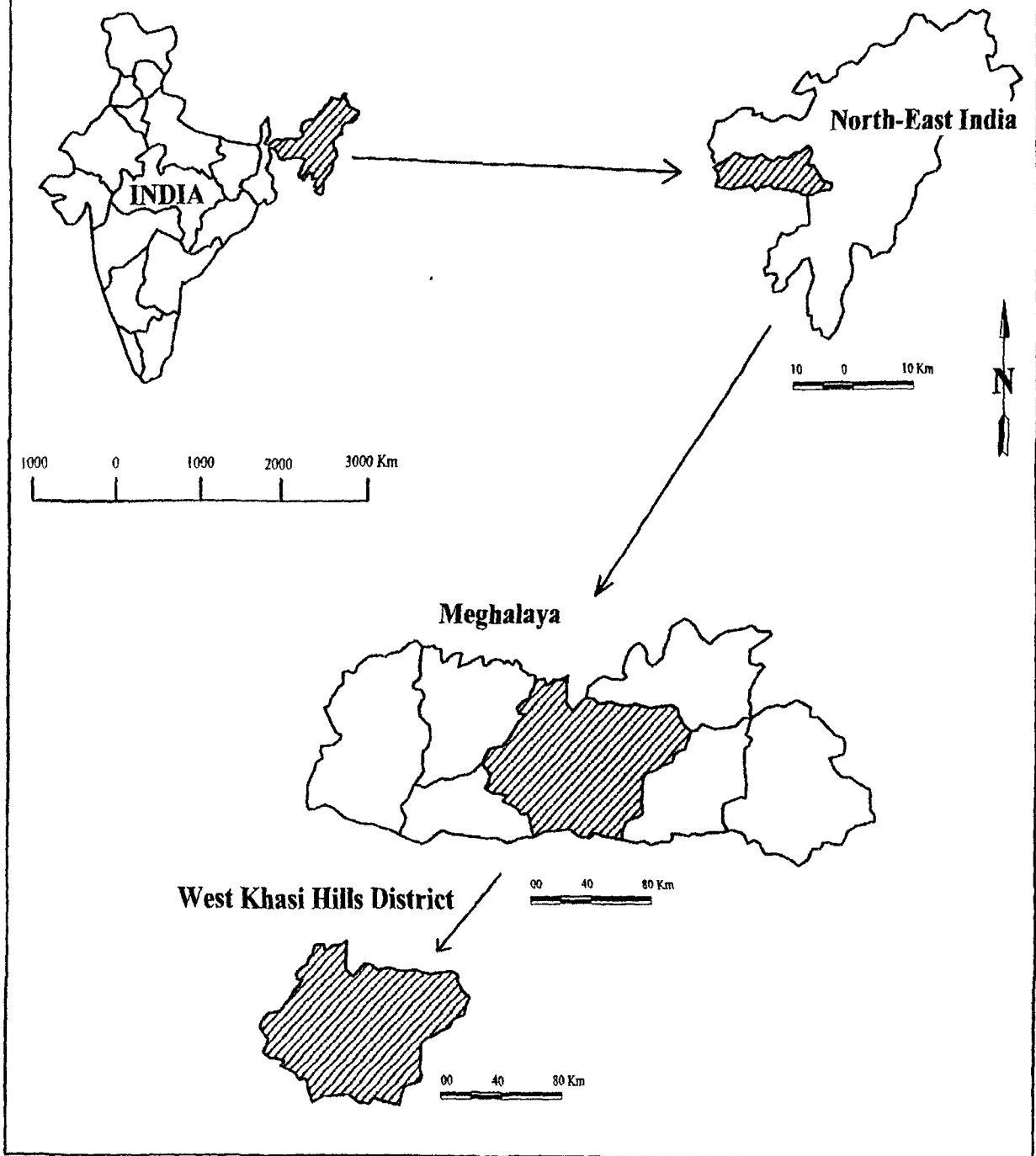
Socio-economic development of any region depends greatly on the system of transport and communication. The district is richly endowed with mineral and forest wealth, but forest produce accounts for the main source of revenue collection. The occupational structure of the people is dependent on forest allied activities and hence impact of the ban greatly felt. It was a hard blow to the district's economy and its

affect on all spheres of life was evident as it led to the immobilization of ancillary and tertiary sectors. This chapter analyses the whole concept of the research work which deals with the various economic characteristic in the district prior and post the Supreme Court order ban on timber.

#### **Chapter-V: Conclusion:**

This chapter reviews the findings and viewpoint of the problem researched. In the need of the hour the initiative taken by the State Government was inadequate to accommodate those who were affected by the ban. The only consolation was approval of the working scheme for timber and other activities, which was relaxed for another period of five years. In conclusion, according to findings the ban should not be blamed for the economic setback as the root of the problem lies within the district itself i.e. lack of developmental activities which encompasses aspects like transport and communication, resource utilization, educational and medical facilities etc.

# LOCATION OF THE STUDY AREA



Map No. 1



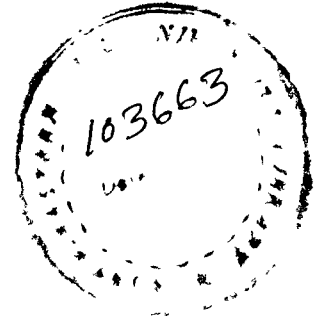
## **CHAPTER- II**

### **Historical Profile of West Khasi Hills District**

#### **2.1 Background:**

West Khasi Hills district of Meghalaya lies in the central part of the State and situated approximately between 25°10' and 25°51'N latitude; and between 90°44' and 91°49' E longitude. The district is bounded on the North by Assam, on the East by East Khasi Hills District, on the South by Bangladesh and on the West by East Garo Hills District. It comprises an area of about 5,247 Sq. Km., which is 23.40 percent of the total area of the state.

The present West Khasi Hills district was created in 1976 vide Notification No. HPL.49/76/171 dated 12<sup>th</sup> October, 1976 and came into being on the 28<sup>th</sup> day of October, 1976. Before being upgraded as a district, West Khasi Hill district constituted a part and parcel of Khasi Hills District. In West Khasi Hills District, Mairang Subdivision was created with headquarter at Mairang vide Notification No. HPL 49/76/193 dated 8<sup>th</sup> November 1976. Nongstoin is the present capital of West Khasi Hills covering an area of about 76.00 Sq. Km. The district comprises three subdivisions, Mairang, Mawkyrwat and Sadar, and five Community and Rural Development Blocks, Nongstoin, Mawkyrwat, Mairang, Mawshynrut, and Ranikor. There are altogether 779 inhabited villages and 20 uninhabited villages in the West Khasi Hills district. Nongstoin is the only town of the district (Census of India, 2001).



## 2.2 Physical Features:

Geographically, the district can be divided into 4 parts. These are:

i) Ri Lyngngam is situated west of the district. The hills here are covered with dense jungles and the elevation is between 600-900 meters. The people in these areas are called 'Lyngngam', hence the name of the area.

ii) Ri-war is in the south of the district. It resembles Ri War of East Khasi Hills District. Here also the hills fall abruptly to the elevation of 150 meters or so overlooking the plains of Bangladesh. The hills and ranges look like two massive walls rising from the plains of Bangladesh towards the North. The people living in this area are also called "War".

iii) Ri-lum or the middle or the central part, the hills and ranges in this part run parallel from east to west. This area is the highest part of the district and Lum Mawthadraishan with a height of 1925 meters or 6314 ft., the second highest peak in the state, sits in this area.

iv) Ri Bhoi is situated or middle part of this district and gradually slopes down to an elevation of 150 meters or so till they reach the plains of Assam.

The physical elevation starts in the plains in the south of the district with an elevation of 150 meters or less. These plains narrow as they proceed towards the north of the districts and occupy the low lying area of the Khri River. Here we have the hills of the elevation of 300 meters or so and the elevation proceed expand from the ranges of 600 to 900 meters at the Kynshi valley and rises slowly to 1350 meters which forms the central plateau (or for that matter the Shillong plateau )of the state.



The elevation starts descending here coming down to the elevation to the elevation of 900 to 600metres.

Towards the north, the plateau gradually slopes towards the Brahmaputra valley through the grassy downs of the elevation between 900 and 1350 meters and descend into elevation 300- 600 meters with small patches of area in the level valleys of the river Khri. Towards the south, the plateau extends almost to the edge of the cliffs overlooking Bangladesh forming the elevation of 900 meters and suddenly dropping down to 150 meters and below. Therefore looking from the plains of Bangladesh the hills on the southern border look like a massive wall rising from the plains towards the north. The Shillong plateau continues towards the west where it descends to the level of 900 to 1350 meters at the Kynshi river valley and starts descending gradually northwards to the elevation of 300 -600 meters at the borders of the West Khasi Hills District and west Garo Hills District where the plateau is cut off by the gorges of Riangdo and Simsang rivers.

Shillong Plateau traverses the centre of Khasi- Jaintia region and forms the watershed of all the principal rivers of the region. The rivers of the Shillong plateau region drain their waters either to the Brahmaputra River (system) in Assam or the Surma River (system) in Bangladesh. The Khri River which rises a little to the east of Mairang from the well- known Kyllang Rock is known as the Kulsi in Kamrup district (Assam). It flows through the heavily forested area an uninhabited region of West Khasi Hills district and is joined by Khri Synnia River before it emerges into the plains of Assam. Of the rivers that flow into Surma Valley (Bangladesh) of the Shillong plateau, the Kynshi River is perhaps the biggest. Rising from the southern

slopes of Mawthadraishan peal near Mairang village, it follows a tortuous westerly course and for a considerable distance the Shillong-Nongstoin road follows its westerly course on the northern banks. It then makes a sharp bend towards the east and debouches through the deep ravine before it enters the plains of Sunamganj in Bangladesh. The Shillong- Balat- Baghmara road crosses the rivers at Ranikor and it flow across a deep ravine that forms the steep walls rising from the river above Ranikor Ghat. (Census of India, 1991)

### **2.3 Flora and Fauna:**

The district is blessed with rich heritage of flora comprising mainly of Khasi pines (*Pinus Kesyia*) and number of fine plants is the richest in India and probably in Asia. Khasi pines dominate in the higher elevation and Teak, Sal, Titachap, Gamari, and Makri Sal in the lower reaches. Orchids and pitcher plants are also found in many pockets. According to Dr. Hooker many species of different varieties have been collected by him. The flora of the district includes flowering plants, ferns, mosses, lichens, fungi, balsam, palm, wild apples, scarlet and white rhododendrons are found in the higher plateau and in the tropical there are figs birches and oaks. However with the passage of time, owing to the deforestation process most of the species have been depleted.

The fauna of the district includes elephants, apes, monkeys, deer and sambhar. The deer are of different kinds and often, called by the Khasis as 'Ka Sier', 'Ka Bthong', 'Ka Skei'. Truc wild life comprises of tigers, leopards, wild pigs, wild boars, bears, etc, and varieties of squirrels, bamboo rats, pangolins, antelopes and others. Currently, elephant depredation is the common occurrence due to the fact that

their original habitat has been disturbed by the haphazard cutting of trees. Indiscriminate burning of forest and plantation impedes the re-generation process.

#### **2.4 Forest Resources:**

The district is rich in vegetation in which ranges from tropical to temperate. Dense jungles clothe the higher summits which abound wild life. Forest areas constitute quite a large part of the geographical area of the state. There is a constant danger of denudation and deforestation due to the rising population resulting in demand for more land for cultivation, grazing and fuel, age old practice of shifting cultivation and encroachment of the people living in outside of the reserved forest. However, steps have been taken by the department concerned to prevent and check soil erosion. There are quite a large number of timber species in the district which are being supplied outside the state. Besides the valuable timber, medicinal plants, hard and soft wood of various types are found; Sal and Teak are the most important produce. The Khasi pine (*Pinus kesiya*) grows abundantly and is an important forest produce which is reported to be of the best quality, yielding a high grade oil of turpentine. Pine grows well in the elevation of 3000 to 5000ft. and it usually does not grow below 2,400ft or above 6,000ft. Chestnut trees, oaks, and firs and are found especially in the low lying areas of the district where the elevation goes down to less than 2,000ft. Rich grasslands appear where the jungles have been cleared and felled with the setting up of bamboo chip factory at Nongdaju.

## **2.5 Climate:**

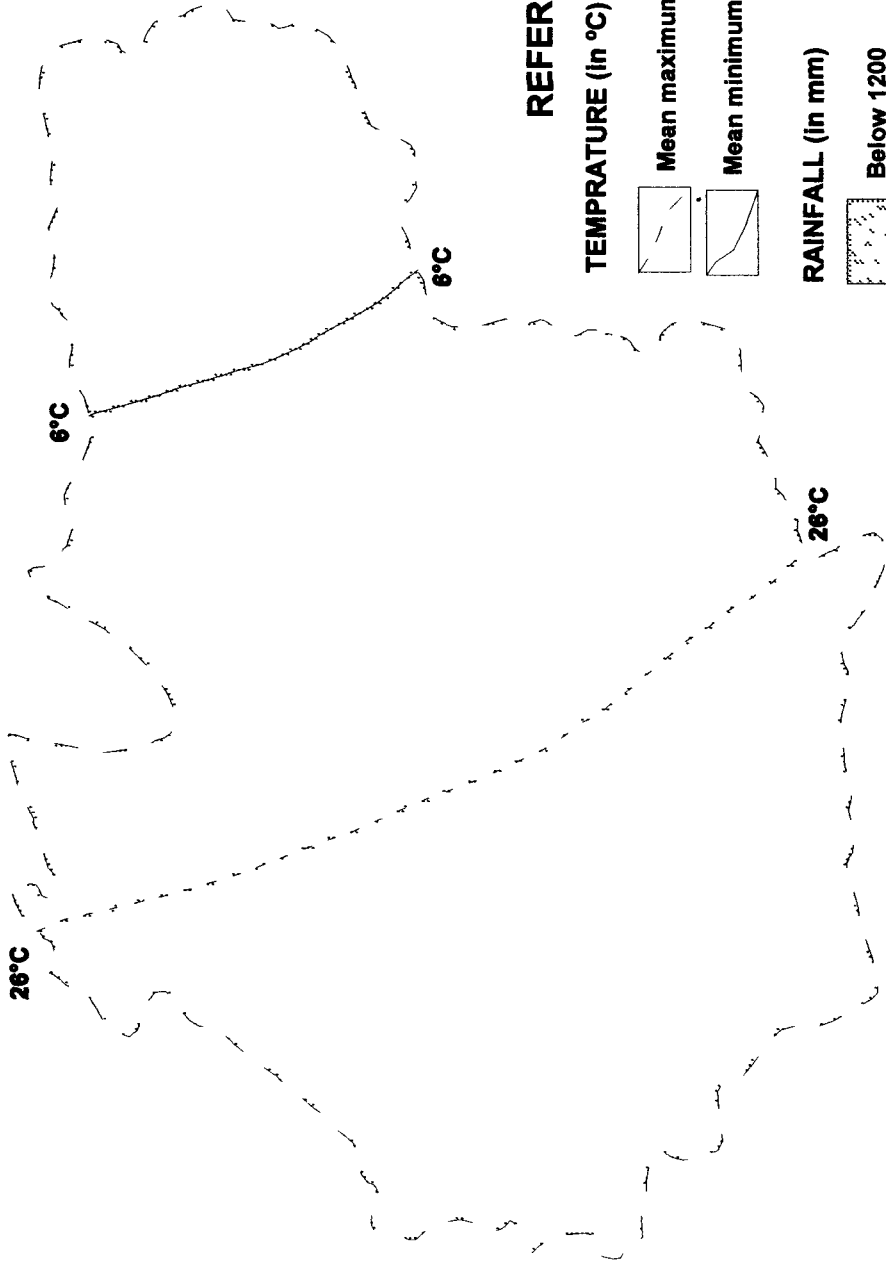
The climate is tropical, generally cold in winter and hot in summer in the Northern and Southern sector of the district. The climate is temperate in the ~~in the~~ central upland zone due to greater height that ranges from 6°C to 26°. The places at medium altitude in the northern, western and southern parts of the district experience sub-tropical climate, where the temperature rises to 35°C during the mid summer. The district receives most of rainfall from the south west monsoon winds which decreases from south to north. The rainfall varies greatly in quantity and intensity from one area to another area within the district. About 80 percent of rainfall occurs during the period from April to September. November to February is practically dry. The average annual rainfall in the north is between 160 cm to 400 cm, in the south is between 600 to 1000cm and in the central is between 400 cm to 600cm.

## **2.6 General Characteristics in Relation to People, Food and Dress:**

**i) People:** The 'Khasis' are the main ethnic community living in the district. They are a short and sturdy race, totally distinct from the neighbouring hill tribes. The relationship of the Khasi language has been traced not only with the Mon-Khmer, but also with Nicobarese and several dialects spoken by the tribes in the Malay peninsular.

The colour of the skin is usually brown varying from dark to alight yellowish brown. Many Khasi women possess that pretty 'gypsy' complexion, which is seen in the south of Europe among the peasants. Eyes are of the medium size, which are generally of black or brown in colour. They are short in stature, with well nourished

# CLIMATIC CONDITION





bodies. Males are muscular, and children are frequently pretty. They are industrious, fond of music and dancing.

**ii) Food and Dress:** The staple food of the people of the District is rice. The Khasis are very fond of meat pork and beef, in which they prepared as curry. Consumption of fish both fresh and dry is very high. Betel – nuts is a common item, where most of the Khasis like very much to chew. Rice is a staple food but there are some places like Lyngngam areas, where maize and yam are used instead of rice during the lean period.

**iii) Dresses:** Originally the Khasi male used to wear a small kilt, a sleeveless coat and a cloth peak cap. But at present they use shirts, trousers and coats made up of cotton, woollen or of synthetic fibres. Formerly turban was used right from the grown up to the aged, in which they were worn in a characteristically Khasi style. But now the use of a turban is a rare case amongst the men.

Khasi women wear an under-garment and a frock or a shirt and on top of all they wear a '*Jainsem*' a sort of cloth which they hang from shoulders to the ankle crossing one another. On their head they wrap a shawl or '*Tapmohkklieh*' and on the top they wear a wrapper or '*Jainkup*' round their body. Costly '*Jaisem*' like '*Dhara*' and '*Muka (ga)*' made up of silk fibres are still considered by the Khasi women as valuable clothes in which they wear it occasionally, whereas '*Jainkyrshah*' or apron made up of cotton fibres is daily and commonly used. Use of shoes, slippers or sandals was not common earlier. By and large, Khasi women still retain their national dress, which is very distinctive from the other people.

**iv) Social Organisations:** Social organisation of the Khasis is a vast subject to deal with. However, a few of the most distinctive characteristics may be mentioned here for general information. In the Khasi society, the clan or '*Jait*' is the unit not the individual. Thus in each and every clan or '*jait*', the eldest maternal uncle is the head. As the head he has the responsibility to look after the welfare of the clan. For anything relating to the clan, he guides and gives decision and even settles matters of disputes which might occur.

Another distinctive feature of social organisation among the Khasi is the matriline system, which is still being followed. Inheritance of the property generally goes to the youngest daughter. The youngest daughter of any clan is considered as the right heir to act as the care-taker, custodian of land, property and religious ceremonies, if and whenever necessary. In the Khasi social organisation another interesting feature is the election of a '*Syiem*' or Khasi Chief. If a '*Syiem*' or Chief dies, his son does not inherit his office. The election of a new King is made by the '*Myntiris*' or Nobles from among the males member of the '*Syiem*' or Chief of the clan.

## **2.7 Population Profile:**

Among the seven districts of Meghalaya, West Khasi Hill District is the largest in term of geographical area, but in term of population it is the third largest. In the last one decade the population increased from 220,157 persons in 1991 to 296,049 persons in 2001(Census of India) i.e., 12.83 % of the total population of Meghalaya. The density of population in the district has increased from 42 persons per sq. km in 1991 to 56 persons per sq. km (2001 census). Among the seven districts of

Meghalaya, West Khasi Hill District ranked sixth in term of density of population and which is comparatively very low compared to the State's density of 103 persons per sq. km in 2001 census.

**Table 2.1: Population Profile**

Population -Total	Person	Male	Female
	296,049	150,419	145,630
Population - Rural	261,451	132,981	128,470
Population - Urban	43,598	17,438	17,160
SC- Population	42	24	18
ST- Population	290,184	147,091	143,093
Literacy Rate (%)	65.1	66.5	63.7
Illiteracy Rate (%)	65.5	64.0	67.1
Sex Ratio	972		
Density of Population	56		

*Source: Census of India, 2001.*

The District comprises of eight Syiemships viz., Nongstoin, Nongkhlaw, Myriaw, Rambrai, Mawiang, Langrin, Nobosophoh, Maharam, together with the three Sirdarships of Jyrngam, Riangsih and Nonglang. The Headquarters of each of the Syiemships and Sirdarships are as indicated below:

**Table 2.2: Syiemships**

Sl No	Name of Syiemships	Headquarter
1.	Nongstoin	Nongstoin
2.	Nongkhlaw	Mairang
3.	Maharam	Mawkyrwat
4.	Myriaw	Nongkasen
5.	Rambrai	Rambrai
6.	Mawiang	Nongshillong
7.	Langrin	Phlangdilion
8.	Nobosohphoh	Rangblang

*Source: WWW.West Khasi Hill.nic.in, 2005*

**Table 2.3: Sirdarship**

Sl No	Name of Sirdarship	Headquarter
1.	Jyrngam	Tyngor
2.	Riangsih	Myndo
3.	Nonglang	Langdongnai

*Source: WWW.West Khasi Hill.nic.in, 2005*

The people of the District have 23 distinct dialects. Majority of these dialectical groups, understand Khasi which is the common or link language of the people. The Khasis are predominant inhabitants of West Khasi Hills District. However, the populace may be classified as follows:

- i) Those living in the central upland are known as Khadsawphra, Mawiang, Maram etc and constitute the Ki Nongphlang.
- ii) Those living in the southern slopes towards the border with Bangladesh constitute the Ki War.
- iii) Those in the Langrin Syiemship (South-West) constitute the Ki Mailang.
- iv) Those living in the Northern side constitute the Ki Rimen.
- v) Those in the Langpih area and Jyrngam Sirdarship constitute the Ki Muliang.
- vi) Those living in the areas between the Nongphlang and Lyngngam constitute the Ki Nongtraai.
- vii) Those living in the western part and in close proximity with East and South Garo Hills constitute the Ki Lyngngam.

viii) Langrin Syiemship, Nongstoin Syiemship, Maharam Syiemship, Mawiang Syiemship, Jyrngam Sirdarship constitute sizeable number of Garo population.

ix) Maharam, Langrin and Mawiang Syiemship constitute small number of Hajong population.

x) Small numbers of Banai communities are traced in Nongjri village of Ranikor Block and Nongstoin Syiemship.

West Khasi being the largest district is bounded by Bangladesh in the south, Garo hills in the west, Assam in the north, Ri Bhoi and East Khasi hills in the east. Hence, there is a lot of interaction from one part to another due to migration, mixed marriage, trade and commerce etc thereby resulting in lingual and populace disparity from one *Syiemship* and *Sirdarship* to another.

## CHAPTER-III

### System of Forest Management and Its Implications

#### 3.1 Background:

No scientific management has been adopted in the past. The forest is dominated by *Pinus kesiya*, *Betula alnoides*, *Gmelina arborea*, *Shorea robusta*, *Duabamga*, *Toona ciliate*, *Lagerstroemia parviflora*, *Tetrameles nudiflora*, *tectona grandis*, etc. Teak planting was also taken up in small scale in Aradonga but no proper silviculture system was being adopted, therefore, it was left to Mother Nature to nurture the growth of these trees.

Commercial exploitation in the past has reduced the composition to less valuable species. The exploitation of valuable species depends on the accessibility of the area. The method of exploitation varies from clear felling in areas having good stock of desired species to selection felling in areas having scattered distribution. Exploitation was carried out to extract the maximum yield in the shortest time possible.

The Forest Department of the Khasi Hills Autonomous District Council also started artificial regeneration of Teak in some of the clear felled areas and aided natural regeneration of Sal was also done. The result is quite promising even without following proper silviculture techniques. The growth of Teak is slow due to overcrowding of trees species of other varieties.

It is seen that the planting of Teak in the slope and ridges has resulted in soil erosion. The planting was done without considering the affect that may arise. This is because no proper silviculture technique was followed. In areas where selection

felling was done, gap planting was done to replace the growing stock as it might have been anticipated that the nature will be self replenished. Occasionally, natural regeneration does take place. In most areas the growth of obnoxious weeds and climbers snuff natural regeneration of trees and this has resulted in open gap in this forest area.

The exploitation of Bamboos was done in a haphazard manner, in which Bamboos irrespective of their age are being extracted for commercial reason. This unscientific exploitation of Bamboos has caused huge damage to the young prominent culms.

Similarly, other non-forest activities like quarrying, road construction has resulted in soil erosion in these areas. Timely action of staffs had stopped activities. The recent banning on felling of trees by the Supreme Court in 1996 has helped tremendously to preserve the valuable forest of the State as a whole. The wildlife in these forests has also increased and proper protection is required.

### **3.2 Future Management of forest as per Discussed and Prescribed by District Council:**

The National Forest Policy of 1952 and 1988 form the basis of proposal for future management of the forest at West Khasi Hills District. The objectives outlines in the National Forest Policy of 1952 are as follow:-

- i) The need for evolving a system of balance and complementary land use.
- ii) The need for checking.
  - a) Denudation in mountain regions to preserve the sources of many rivers.
  - b) Erosion in the lowland and siltation of dams, lakes and river beds.

- iii) The need for establishing tree lands, whenever possible for the amelioration of physical and climatic conditions for promoting the general wellbeing of the people.
- iv) The need for ensuring progressively increasing supplies of fodder, small wood for agricultural implements and in particular of firewood and also increase food production.
- v) The need for sustained supply of timber and forest produce required for defence, communication and industry.
- vi) The need for the realization of maximum annual revenue in perpetuity, consistent with the fulfilment of the needs enumerated above.

Similarly, the objectives of the National Forest Policy of 1988 are as follows:

- i) Maintenance of environment stability through preservation and, where necessary restorations of the ecological balance that has been adversely disturbed by serious depletion of the forest of the country.
- ii) Conserving the national heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country?
- iii) Checking soil erosion and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs.
- iv) There is the need of increasing substantially the forest /tree cover in the country through massive forestation and social forestry programmes, especially on all denuded, degraded and unproductive lands.
- v) Meeting the requirements of fuel wood, fodder, minor forest produce and small timber of the rural and tribal population.
- vi) There is the need of increasing the productivity of forests to meet essential national needs.



- vii) Encouraging efficient utilization of forest produce and maximizing substitution; and
- viii) Creating a massive “people’s movement” with the involvement of women for achieving the objectives and to minimize pressure on existing forests.

**3.3: General Objectives of Management for the Forest in West Khasi Hill District:**

Taking into consideration the basic objectives of the National Forest Policy of 1952 and also of 1988, the General objects of the management for the forest of West Khasi Hill District are as follows:

- i) To maintain the forest in a scientific manner as prescribed, so as to restore ecological balance and obtain maximum sustainable yield per unit area;
- ii) To increase substantially the forest tress cover in the tract through afforestation works of barren abandoned *Jhum* areas and other degraded waste land;
- iii) To protect and conserve the vegetal cover an all slopes and ranges with special emphasis on the prevention of siltation in the river beds, to check the flash flood that commonly occurs on the border side;
- iv) Increasing productivity of the existing forest to meet essential needs in respect of all kind of forest produce by intensification of management and tapping of non utilized and under-utilized potential;
- v) Meeting the requirement of fuel-wood, fodder, non-wood forest produce, small timber for rural people; and
- vi) To generate employment for the local people thereby, weaning them away from the destructive practice of *Jhum* cultivation.

### 3.4 Land Use Pattern:

In this district as a whole, the Land largely belongs to the people, and the land tenure systems are of different categories. The broad categories of land use pattern in this District are as follows:

- a) *Ri-kynti* or Private land is the land belongs exclusively to a person or persons.
- b) *Ri Raid or Raid* land is the land belonging to the community or the people of the Raid (the administration of the Raid Durbar the person known as *Basan or Bakhraw* or the Elders or the Headmen. This *Raid* is called in Maharam state as 'Phra Kynbat')
- c) *Ri Nongtymmen* or Ancestral land means the land inherited from the mothers or grandfathers, from uncle or elder brother or from the father or grandfather which is owned by those families who have descended from the first owners.
- d) *Ri Lyngdoh* (Lyngdoh Land) is a private land or a certain group of relatives dedicated to religious purpose called '*Law Lyngdoh*' (Priest's Forest).

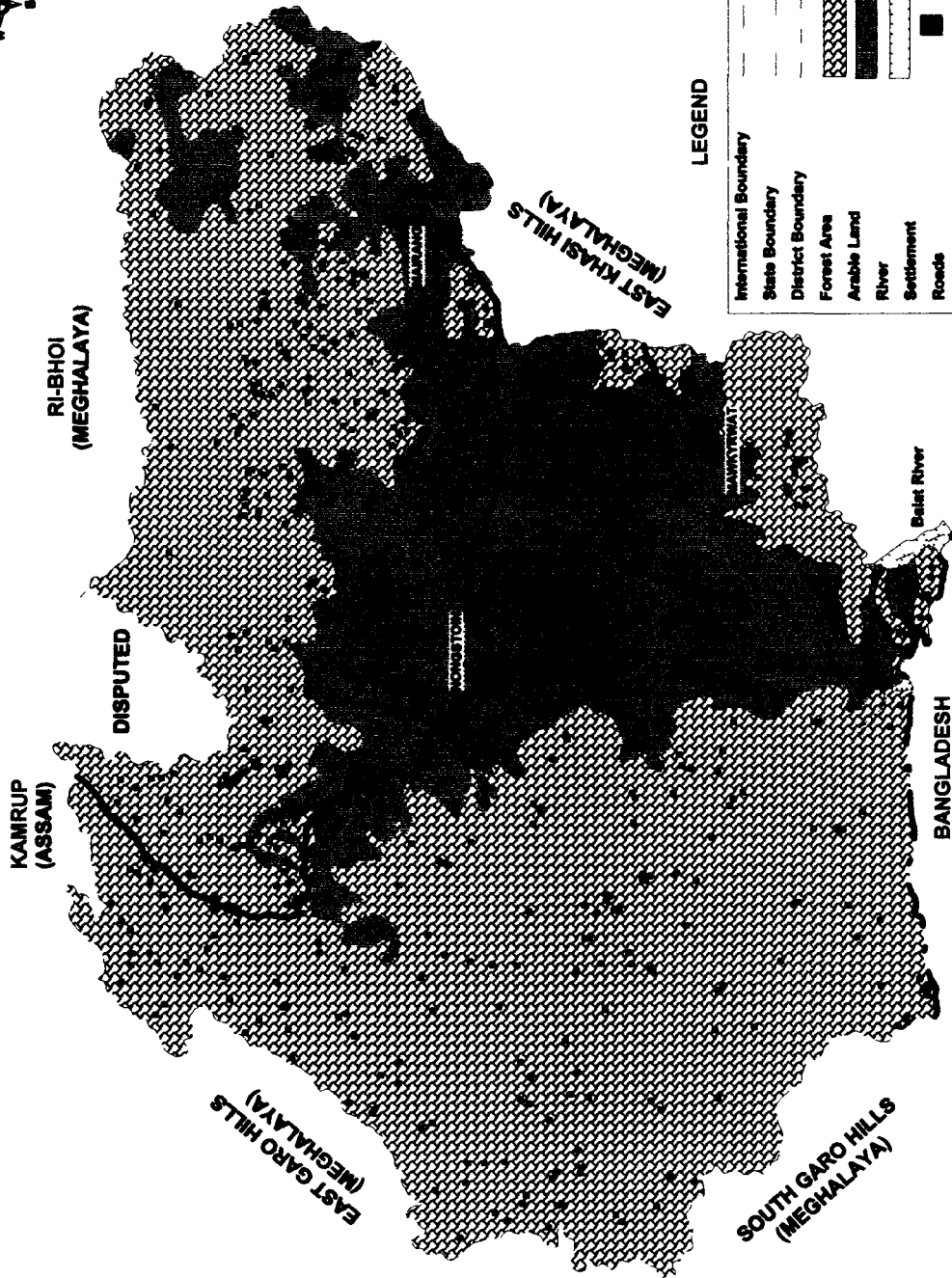
**Table 3 .1: Landuse/ Landcover in West Khasi Hills District**

Sl. No	Land cover/Land use	Area ( Sq. Km.)
1.	Dense Forest	568.48 ✓
2.	Open Forest	2239.67 ✓
3.	Grassland	246.72
4.	Degraded Land	852.22
5.	Agricultural	1301.43 3907.09
6.	Sandy Area	18.24
7.	Water	20.19
8.	<b>Total</b>	<b>5247.00</b>

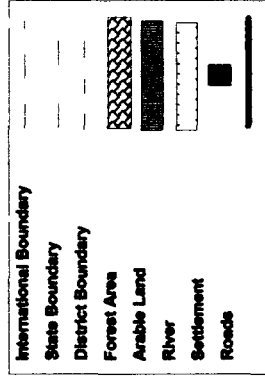
Source: Khasi Hills Autonomous District Council, Meghalaya, 2003.

From the table 3.1, it is clearly indicated that out of the total area in West Khasi Hills, major portion is under the open forest. This shows that most of the dense forests have been cleared for various forest activities, both commercial and domestic

**LAND USE MAP OF WEST KHASI HILLS DISTRICT, MEGHALAYA**



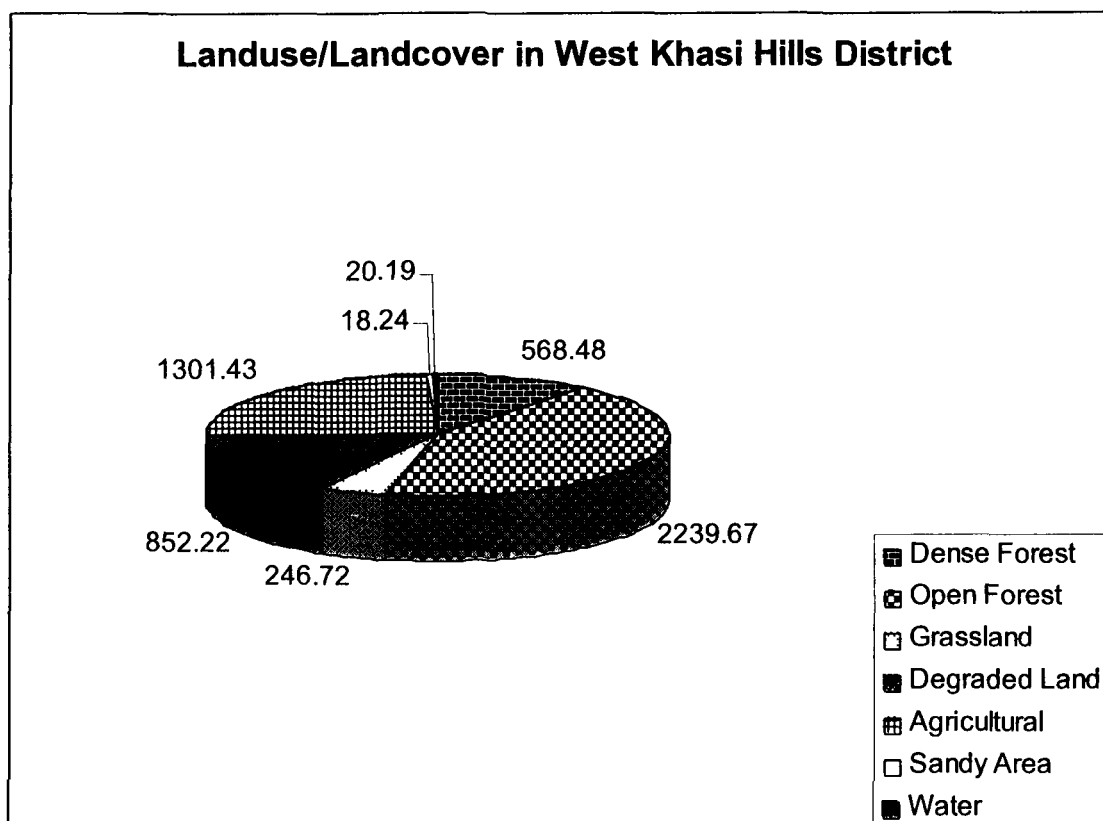
**LEGEND**



**Map No. 4**

Source: Survey of India, 1991

purposes, during the pre-ban period. Consequently most of the land cover have been transformed into open forest, grass land and degraded land. Large proportion of land is also under agriculture, this indicates that people are highly dependent on agriculture both for subsistence and commercial purpose. Shifting cultivation is the main agricultural practices along the hill slopes and permanent cultivation in the plains and valleys, hence encroachment of the forest at a large scale to fulfil the basic requirements of the people.



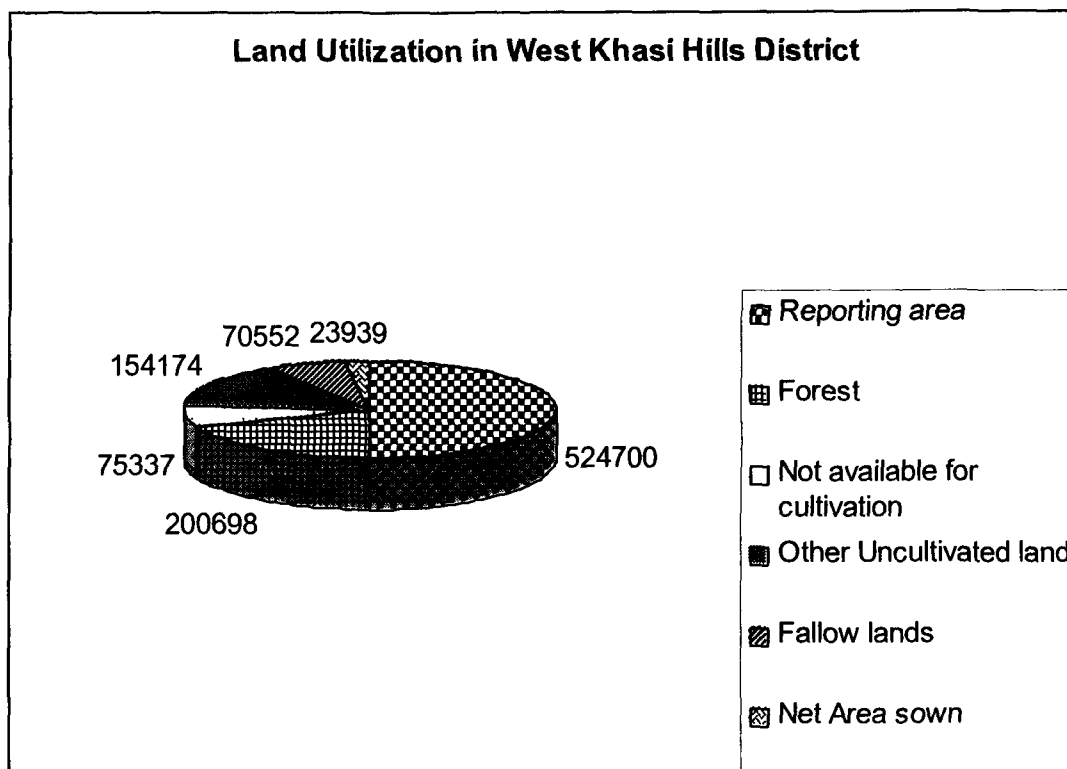
**Figure 3.1**

**Table 3.2: Land Utilization in West Khasi Hills District**

<b>Sl. No</b>	<b>Classification</b>	<b>Area (in ha.)</b>
1.	Reporting area	5,24,700
2.	Forest	2,00,698
3.	Not available for cultivation	75,337
4.	Other Uncultivated land	1,54,174
5.	Fallow lands	70,552
6.	Net Area sown	23,939
7.	Total cropped area	50,800

*Source:* Directorate of Economics, Statistic and Evaluation, Meghalaya, 1991.

Table 3.2, indicates that land utilization is uneven. Out of the total reporting area, forests are classified as comprising the largest area followed by other uncultivated land, land not available for cultivation and lands which have been left fallow to regain the fertility. Out of the total cropped area only half of it is under the net sown area, this shows that people in the pre-ban period were mainly engaged in forest and related activities, hence the decline in agricultural land use. ✓



**Figure 3.2**

### **3.5 Legal Position:**

The areas formulated under the working scheme within the jurisdiction of Khasi Hills Autonomous District Council and are governed by the United Khasi and Jaintia Hills Autonomous District (Management and Control of Forest) Act 1958 and Rules 1960 and its subsequent amendments. Within this working scheme are there various categories of forest as per the said Act, viz.

- a) Private Forest
- b) *Law-Ri sumar*
- c) *Law Lyngdoh, Lawniam, Law Kyntang*
- d) *Law Adong and Law Shnong*

- e) Protected Forests
- f) Green Block
- g) *Raid* Forests
- h) District Council Reserved Forests
- i) Un-classed Forests

### **3.6 Rights and Concessions:**

The local villagers enjoy rights and concession in various categories of forests, viz. in Private forests, *Law-Ri Sumar*, *Raid* forests etc. In Private forests, the individual owner has full rights over his own forest for collection of NTFP (Non Timber Forest Products), however in some cases there is restriction of some forest produce, which is listed as endangered and threatened of extinction, like endangered fauna or/and flora. The locals also have some right and concession on *Raid* forests and other village forests as per the guidelines laid down by the village or *Raid* Durbar.

### **3.7 Utilization of Forest Produce:**

The various forest produces have been used for various purposes by the locals. Firewood is the major source of fuel for cooking and timber is the material for house building, bridges, furniture etc. The requirement is more as the number of families is increased. As more of the families living in and around the forest area are very poor and uneducated, it is difficult for them to give up their aged old practices for there are no other options due to snail pace in the development of District as a whole. Apart from firewood collection, timber cutting, burning of timber for charcoal production is

the alternative after the post ban period (12<sup>th</sup> December, 1996) to earn their livelihoods.

Some of the important NTFP (Non Timber Forest Produces) in the District are **be** listed as follows:

- a) **Thatch Grass-** Thatch grass is used in building huts in these rural settlements. It is used as roofing materials. A few species of grasses, viz, *imperata cylindrical*, *Phragmatis karte*, etc. are being collected by the villagers. Other species of grasses are used as fodder for livestock.
- b) **Broomstick-** *Thysoneria indica* has become another important forest produce. This species has been a major source of revenue for some families of these areas. Broomstick is being collected and dried after which it is made into brooms ready for the market, which is collected by middlemen and are transported to big markets like Bombay, Delhi etc., even exported to Middle-East with large Indian expatriate population.
- c) **Bamboos-** Few species of bamboos viz., *Kako*, *Jati* and *Terai* are found in this forest area which is used for building houses, mats, baskets, etc. Selling of bamboos finished product fetch enough money for the rural families.
- d) **Timber-** Valuable species of Sal and other species are being extracted in the late 1950's by various agencies by the way of lease. This trend was carried out by the local contractors till the late 1960's. This heavy exploitation has affected the ecological balance and regeneration of some important species.

Some of the important marketable produces are the following:



**Table 3.3: Timber Species**

<b>Scientific Name</b>	<b>Trade Name</b>
<i>Tectona grandis</i>	Teak
<i>Carpinus viminea</i>	Hornbeam
<i>Shorea robusta</i>	Sal
<i>Micheliachampaca</i>	Tita sopa
<i>Phoebe goalparensis</i>	Bonsum
<i>Gmelina arboria</i>	Gamari
<i>Morus lavaegata</i>	Bola
<i>Mesua ferrea</i>	Nahor
<i>Pinus khasiana</i>	Red pine
<i>Terminalia myriocarpa</i>	Hillock
<i>Amoora wallichii</i>	Pat amori
<i>Amora rohituka</i>	Amari
<i>Cassia fistula</i>	Snaru
<i>Talauma phelocarpa</i>	Kherika sopa
<i>Cedrella toona</i>	Poma
<i>Pinus insularis</i>	White pine
<i>Calophyllum polyanthum</i>	-
<i>Betula alnoides</i>	Birch
<i>Bridelia retusa</i>	Kuhir
<i>Castanopsis lysteri</i>	Hingery
<i>Albizia odoratissima</i>	Kalasisiris
<i>Albizia procera</i>	Safedsiris
<i>Albizia lebbek</i>	Karoi
<i>Duabanga sonneratoides</i>	Khokan
<i>Lophepetalna fimbriatum</i>	Rumu
<i>Cinnamomum cecicedaphine</i>	Gonsoroi
<i>Dipterocarpus turbinatus</i>	Gurjan
<i>Artocarpus chaplasi</i>	Chama
<i>Vitex penduncularis</i>	Ahoi
<i>Lagerstroemia parviflora</i>	Sida
<i>Lagerstroemia flosroginae</i>	Jarul
<i>Schima sp</i>	Makri sal
<i>Chikrassia tabularis</i>	Rogi poma

Source: Khasi Hills Autonomous District Council, 2003.

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**Firewood-** Firewood is another marketable produce. Heavy demand from the P.W.D. Contractors and the nearby towns is met from this forest area. The main species are the branches of *Lagerstroemia parviflora*, *Vitex penduncularis*, *Bauhinia*, *Schima*

*wallichii, Dillenia indica, Syzygium cumini, Castanopsis, Macaranga denticulate, Careya, Albizia lebbek etc.*

- e) **Charcoal:** Studies show that the charcoal business has increased manifold ever since the court order came into practice.
- f) **Other Non Timber Forest produce:** The important Non Timber Forest produces of the district are Bark, Honey, Mushroom, Medicinal plants etc.

## CHAPTER – IV

### **Economic Characteristics of the West Khasi Hills District and the Impact of the Supreme Court Order**

#### **4.1 Introduction:**

Minerals, transport and industries have ultimate relationship which helps in building the basic strength of the economy of any region. There is no denying fact that agriculture, mining, forestry, industry, population and policies of the region are indispensable for the socio-economic development of a region. But all these would fade into nothingness if the role of transport and communication is not taken into consideration. Therefore, transport is a backbone of modern economic growth which works along with other factors in accelerating economic development. In other words an efficient system of transport is indispensable for any modern economy. Prior to the attainment of separate State, the transport system in the district was deplorable. The important road in West Khasi Hill District is the Shillong-Nongstoin-Mawshynrut road and Shillong-Mairang road. Further, road mileage in the in the district are still gravelled and kuccha. They were not properly maintained and metalled only at the starting point of the town. Between 1974 and 1979, the newly constituted North Eastern Council has taken the various routes. One of the six important routes is the Nongstoin-Rongjeng route, whose 20.6 percent of total actual expenditure on transport was funded by the Mother State.

#### **4.2 Mineral Resources:**

West Khasi Hills is very rich in mineral resources, but most of the minerals are under investigation. Important minerals in the district are Sillimanite, Coal, Limestone and Uranium.

- i) **Sillimanite:** The world's best known deposit of Sillimanite is located in Sonapahar under Manshynrut Block. It is estimated that Sonapahar contains an approximate reserve of 2, 55,000 tonnes of high grade Silimanite spread over a belt of 20 x 10 Km. This was being mined by the Bharat Refractories Ltd., but has been stopped with the expiry of the land lease.
- ii) **Coal:** The district has good deposits of coal and is being commercially exploited. Coal is found in Shahlang area under Mawshynrut Block which is being mined, extracted and exported to other states through Assam and also in the international border area around Borsora under Ranikor Block which is exploited and exported to Bangladesh.
- iii) **Limestone:** Limestone is found in abundance in the southern part of the district and is commercially exploited and exported to Bangladesh. Limestone section is mostly found in the area of Ranikor, Nongkulang, and Khanjoy. Unfortunately no estimate for Limestone is available. Although Limestone is very less in comparison to East Khasi Hill District.
- iv) **Uranium:** this is one of the most important mineral found the southern slope of the district. Extensive exploratory works has been undertaken at

Domiasiat, Nongkulang, Tinniang near Nonglanglieh and Tynnai and Nonglang (Mawkyrwat) for uranium deposits which is considered to be of a high-grade quality.

West Khasi Hills district is, at present, having no hydro electric project. However, there is good hydro electric potential from the Khri River and the Kynshi River. The district is also endowed with vast reserves of sand and stones. Hill sand and river sand are being commercially used for construction purposes. Stone quarrying is a means of livelihood for a number of poor families while granite cutting is a recent trend. The district has a lot of potential mineral reserves that can be tapped but lack in infrastructure and technological know how is the root of the problem behind the economic backwardness<sup>is.</sup>

#### **4.3 Forestry:**

Forest for long has been considered as a free bountiful gift of nature for which it can be defined as a renewable natural source. Forest provides mainly timber, fuel-wood and medicinal plants to the people, fodder to the livestock, supply of raw material to the forest based industry and their contribution to the State's income and employment.

The hilly topography of the region with its bountiful vegetation and deep terrain presents a beautiful landscape of variety of trees. Trees of various species are found in those forests and also indigenous medicinal plants are growing wild in some forests. Some gifted local healers used these unknown medicinal plants for effective treatment and also curing various ailments. The area under forest is 3742 sq. Km. (2003, State Forest Report) out of the total forest area of the district (5247 sq. Km).

The presence of such forest has become a wealth which the nature has bestowed graciously upon the region. But due to wanton destruction of forest and unscrupulous motives for commercial purposes in the respect of forest products, this natural wealth has been robbed of its rich possession. The rampant cutting and felling of the trees has not only depleted the forest area but also disturbed the ecological balance and the existence of flora and fauna is very much threatened. However, the ban imposed by the Supreme Court of India 12<sup>th</sup> December, 1996, has come as a boon so that those hills and hillocks which have become more or less barren may again drape with new green covers in the years to come.

As stated earlier, the land tenure system of the district is different from others. Therefore, the major portion of forest area is under the ownership and control of the community, local bodies and private parties or individuals. As such, Forest Department has acquired only 10 percent of the total forest area of the district. This is hampering regeneration programmes because majority of the affected forests falls under private or traditional jurisdiction.

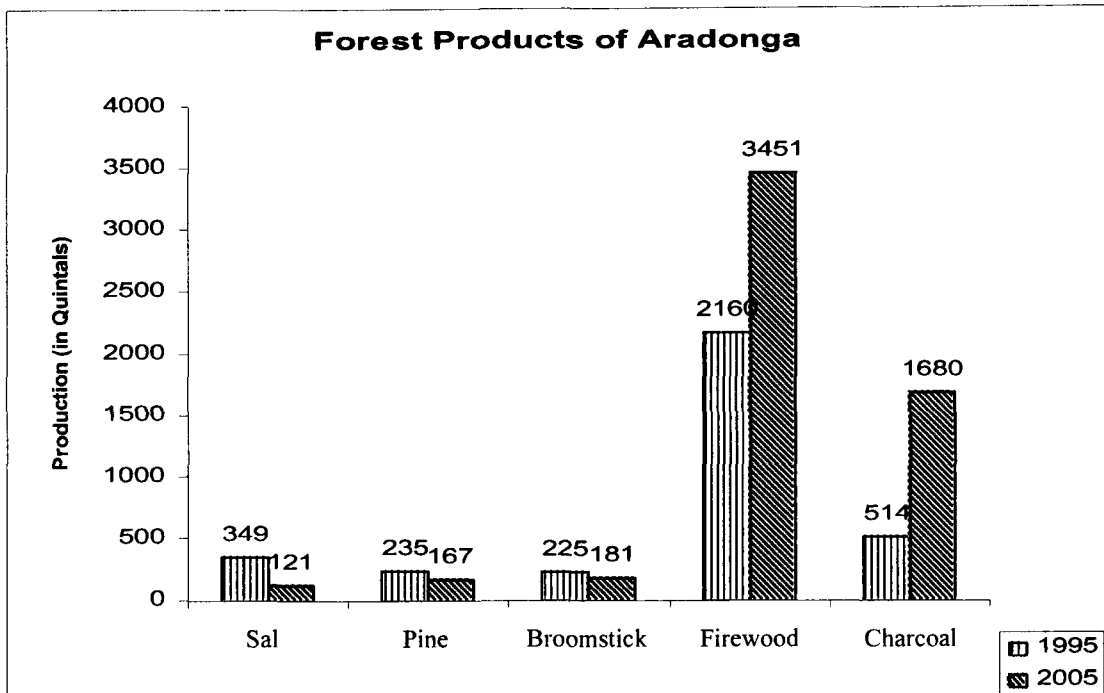
**Table 4.1: Statistical Statement on Forest Produces of West Khasi Hill District  
(Production in Quintals in the respective years)**

Beat/Range	Sal		Pine		Broomstick		Firewood		Charcoal	
	1995	2005	1995	2005	1995	2005	1995	2005	1995	2005
Aragdonga	49	21	135	67	225	181	2160	3451	214	1680
Riangdo	22	19	377	121	300	219	708	853	438	29671
Nongstoin	36	9	43581	204	9367	N.A	912	1438	265	945
Mairang	58	23	14011	127	1285	976	54733	759	180	1743
Rambrai	47	36	579	326	28	6	3872	3951	317	21456

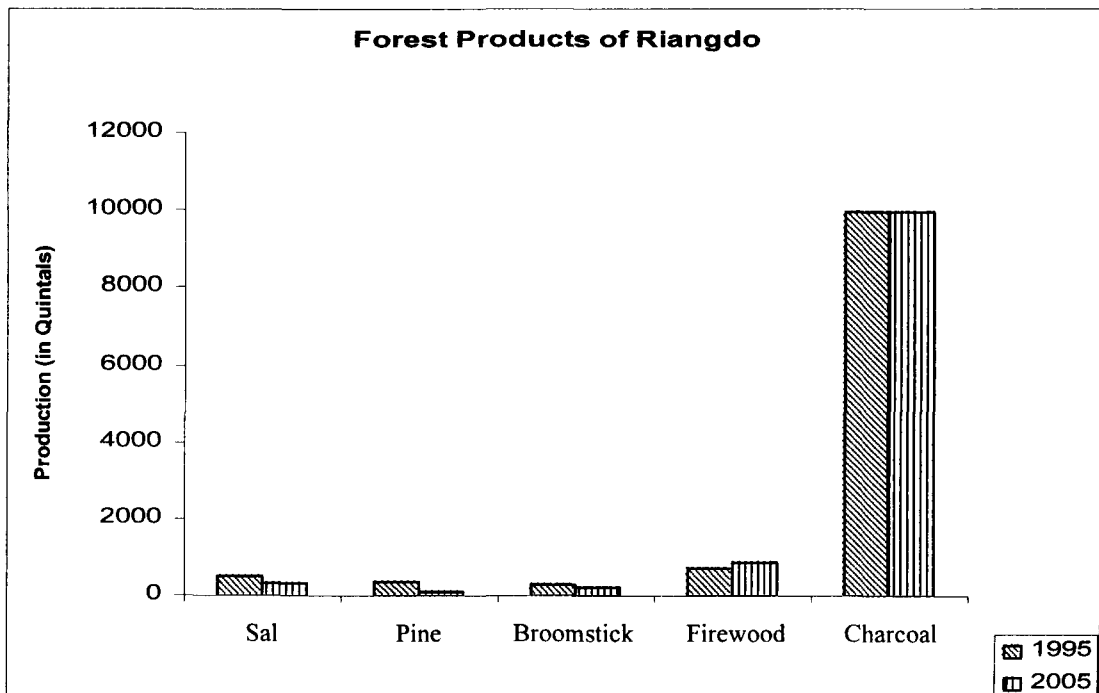
*Source:* Khasi Hills Autonomous District Council, 2006.

The above Beats and Ranges of West Khasi Hill District are the main areas where most of the forest activities are taking place. The important forest products in this region are Sal, pine, broomsticks, firewood, charcoal etc. Most of the forest products are used both for domestic and commercial purpose and traded outside the state as source of raw materials, for supporting various forest based industries, construction works etc. To fulfil this large supply of forest products most of the virgin forests in the District are subjected to large scale exploitation and gradually affecting the loss of Bio-diversity.

From the table 4.1 one can understand that the production of various forest products decreased after 1996-97, due to the imposition of the ban by Supreme Court of India in 1996. But the stock of forest products like timbers, round logs, etc was gradually disposed subsequently. Although burning of charcoal, which is the main activities of the people after the timber ban period, is not banned also results in large scale deforestation. The production of charcoal is increased rapidly in 2005 in various beats or ranges such as Riangdo and Rambrai, where the production is 29671 quintals and 21456 quintals respectively.

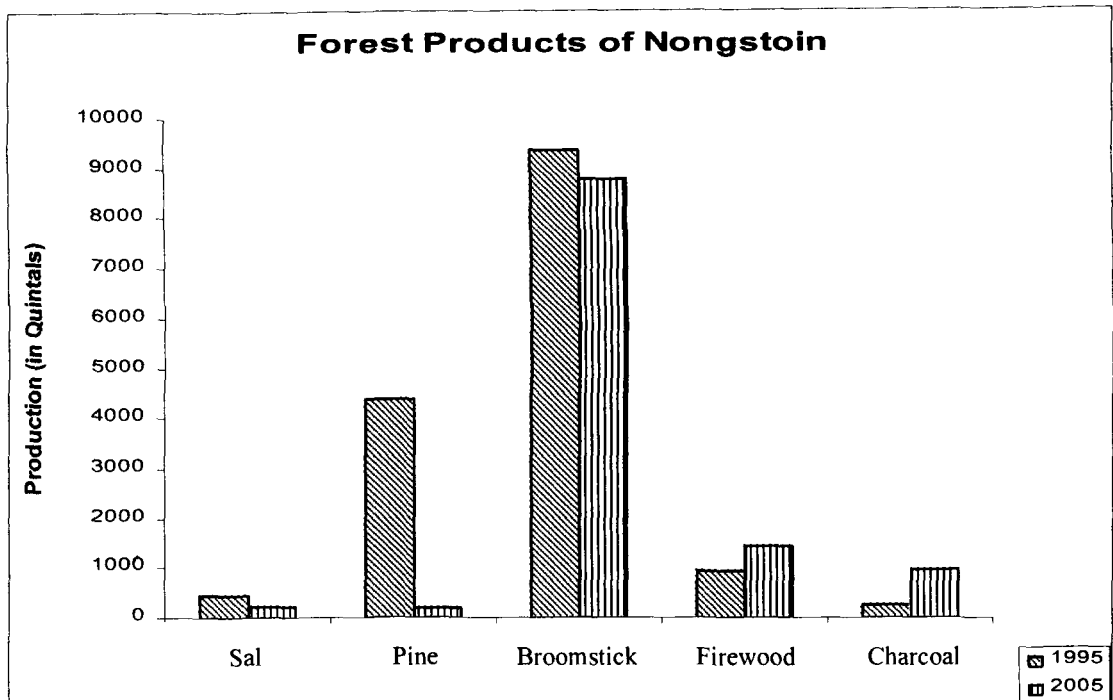


**Figure 4.1(a)**

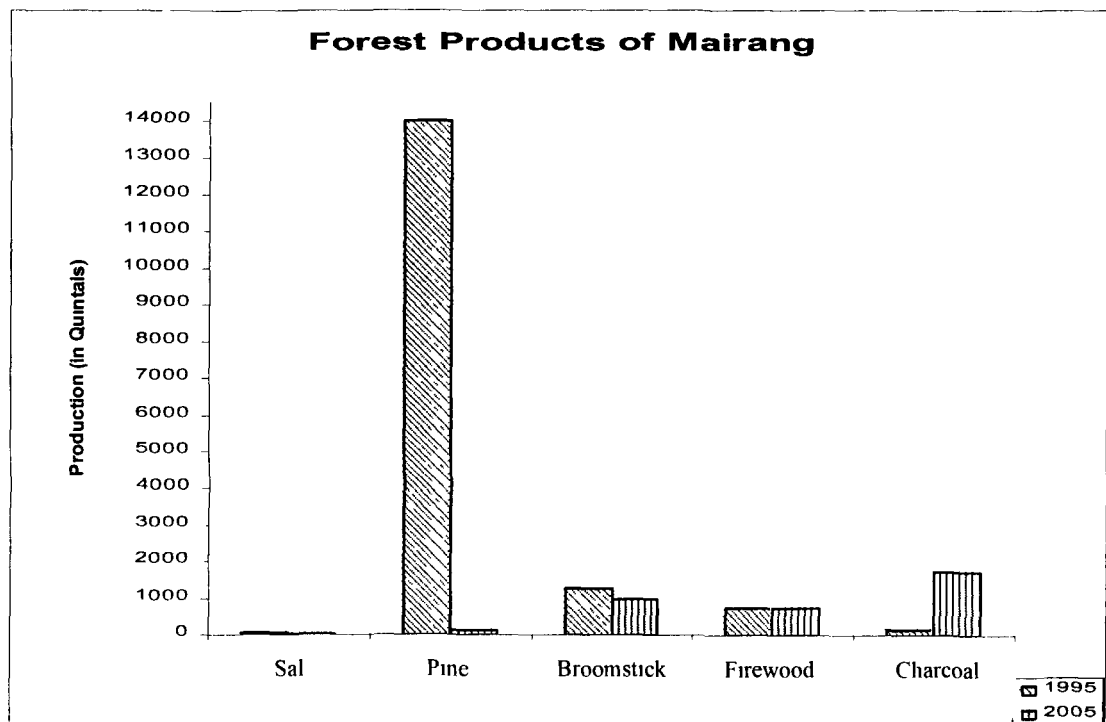


**Figure 4.1(b)**





**Figure 4.1(c)**



**Figure 4.1(d)**

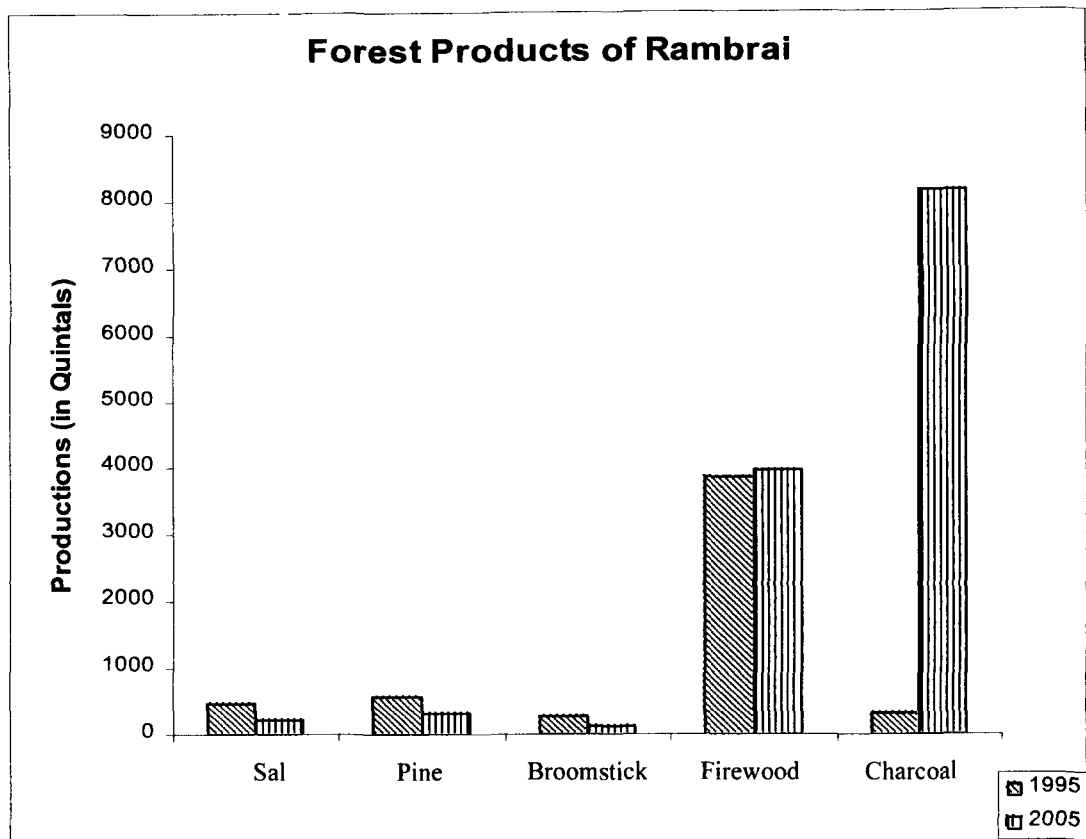


Figure 4.1(e)

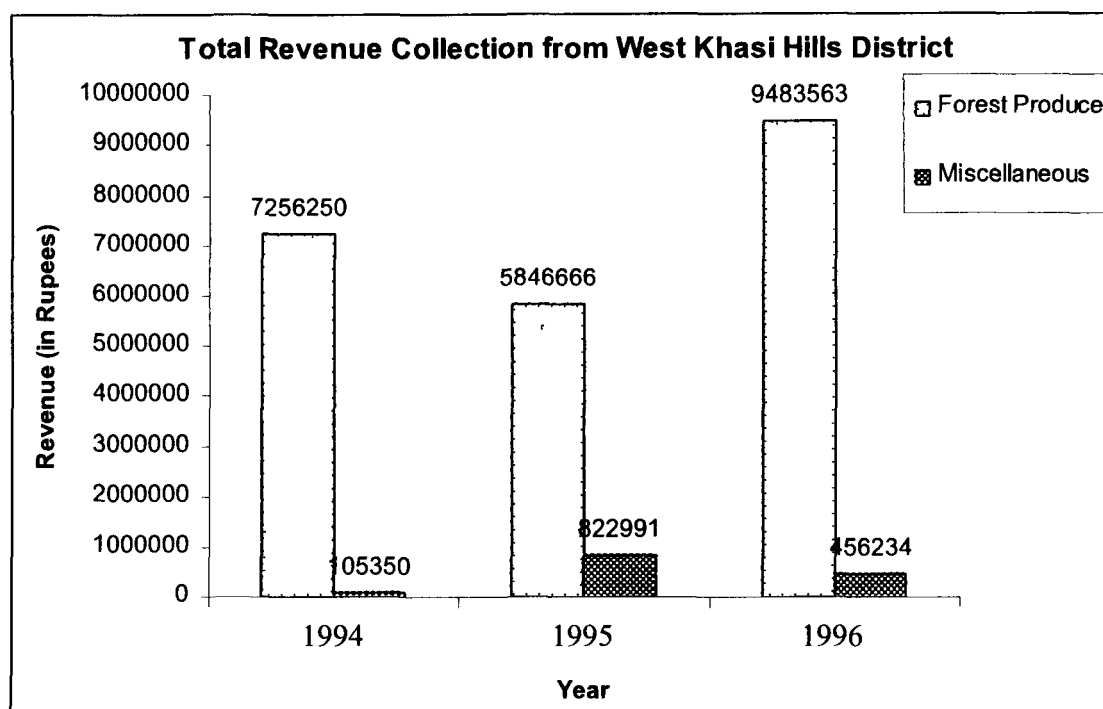
Table 4.2: Total Revenue Collection from West Khasi Hill District

Year	Forest Produce (in Rupees)	Miscellaneous (in Rupees)	Total (in Rupees)
1994	72,56,250	1,05,350	73,61,500
1995	58,46,666	8,22,991	66,69,657
1996	94,83,563	4,56,234	99,39,697

Source: Land Utilisation Statistic, Khasi Hills District Council, Shillong.

Table 4.2 indicates that, during the three consecutive years, the revenue collection from forest produce amounts very high. However, during 1995, the revenue collection was slightly lower compared to the other two years because traders were blocking their stocks for profit, in case the hearsay rumours about the ban on timber cutting was implemented they could release their stocks at a higher rate. In 1996, revenue

collected from forest produce was very high because at this stage of time the Supreme Court relaxed the ban thereby permitting those involved in forest allied activities to release all their stocks. Moreover, ban on timber saw the emergence of charcoal burning activities; hence additional revenue was collected from this source.



**Figure 4.2**

#### **4.4: Occupational Structure in the District:**

The Study of economic composition of population remains incomplete without its reference to the occupational composition of the population. The occupation of the people refers to their trade, profession, type of works. The occupational structure of a society is the product of a number of intimately related factors. The nature and variety of physical resource base, of course, lays down the basic foundation in the form of good land for agriculture, thick vegetation cover for forestry, rich geological

strata for mining etc. The Census of India classified the population into workers, marginal workers and non-workers. Marginal workers comprise those persons who had worked for less than 183 days in a year and non-workers comprise those either mainly engaged in household duties or students or dependents or retired persons or beggars or those engaged in non-productive economic activity. The main workers are divided into cultivators, agricultural labourer, workers in household industries, and other workers. Details of the occupational structure of the population in West Khasi Hill District from 1991 to 2001 are presented in the table 4.3. Under this classification, the occupation structure of the people in the study has been analyzed in the following paragraph.

West Khasi Hill District is an agricultural region where majority of the population are engaged in agriculture or related primary activities. Majority of the people are cultivators and constitute 60.20 percent of the total population in 2001, whereas only 1.60 percent of the workers are engaged in various household industry or non-agricultural activities or tertiary occupation and constituted the least population; 56.40 percent of the population comprise of the non-workers or dependents (children or old people).

The proportion of cultivators to the total population has increased significantly from 12.95 percent in 1991 to 60.20 in 2001. Interestingly, the proportion of workers in others categories of occupation also have shown definite upward trends.

**Table 4.3: Occupational Structures in West Khasi Hill District**

Industrial Classification of Population	Percentage of Workers to total Population					
	1991			2001		
	Person	Male	Female	Person	Male	Female
Main Workers	43.31	47.30	30.91	33.00	37.10	28.8
Marginal workers	0.51	0.16	0.88	10.60	9.20	12.00
Non -Workers	56.18	52.54	60.00	56.40	53.60	59.20
Cultivators	12.95	68.06	79.17	60.20	57.40	63.50
Agricultural Labourers	15.49	16.08	14.75	23.30	22.80	24.00
Workers in Households Industries	0.13	0.11	0.16	1.60	1.50	1.60
Other Workers	7.06	9.92	3.43	14.90	18.30	10.90

Source: Census of India, 1991-2001

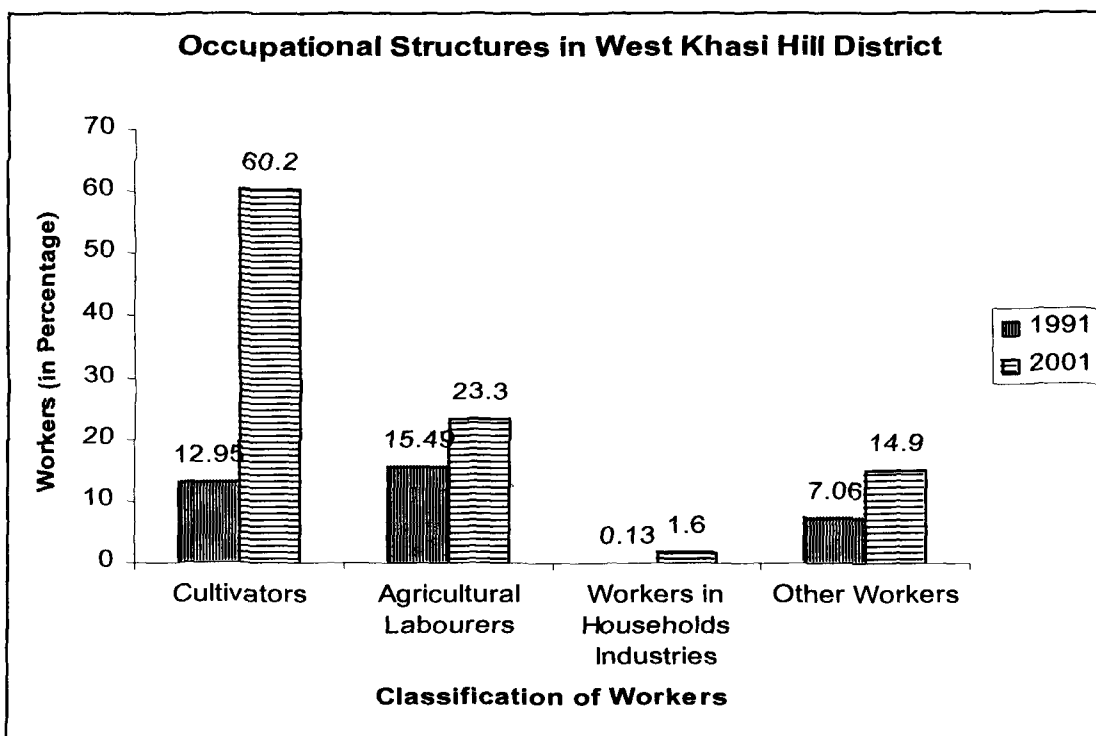


Figure 4.3

#### 4.5 The Supreme Court Order:

The Supreme Court's blanket ban on cutting, processing and movement of timber in the State has started telling hard on the state's economy. Due to sudden drying up of one of the principal source of money supply, the market has been showing increasingly sluggish trends. According to traders and merchants, the buying capacity of the people has considerably fallen as the money circulation has dipped significantly.

Wholesale traders in Shillong say that the traders from rural areas who buy merchandise from the local market are increasingly feeling a pinch. The rural *mahajans* are compelled to take huge credit from the wholesalers, who are now contemplating to deal only in cash.

In the press conference held at Press Club, Shillong on Thursday, 4<sup>th</sup> July 1997, Mr. H. S. Lyngdoh, local M.L.A. from West Khasi Hill District said while the stand of Supreme Court was appreciable; the problem was becoming acute because of the difficulties in disposal of the trees felled before the ban was imposed. His own estimate was that some million cubic feet of timber was rotting in the forests for the past six months. He said the timber trade having come to a complete stand-still had adversely affected not only the forest owners but also the ancillary and tertiary sectors like sawmills, furniture makers, truckers, labourers and the rest of the down-stream activities. The buying capacity of the people dwindled and many were living a 'hand to mouth' condition since there was no other alternative source of livelihood and income in the rural areas of the district.

The December 1996 ban said there would be no timber felling unless the forest department made a working plan for the forested region for logging. However, it was acknowledged that charcoal is a minor forest product. The Supreme Court in its order on March 1997 clarified that there was no ban on charcoal production. The biggest employer in West Khasi Hill District today is not the government but the charcoal trade. More than 85 percent rural population of the District now depends on firewood or charcoal for their livelihood.

The 1996 Supreme Court Order restricting timber felling may have stopped logging but it has only created an alternative for the people to use the forest as their last resort. Studies show that the charcoal business has increased manifold ever since the said Order came into force. As compared to the pre-ban period the production of charcoal increased to a whopping 144 times than what was extracted before the ban

was put in place. The effect on forests because of this extraction may be more worsening than that of timber felling. Moreover, replacement of charcoal trade to timber lumbering is probably more wasteful and exploitative; a villager is able to earn just a meagre Rs. 75-100 for a bag of (35 Kg) charcoal, but this process involves burning of huge numbers of trees, irrespective of size, whereas that same bag of charcoal would fetch him between Rs 150-200 in Shillong.

For the last ten years (since the ban was enforced), people tried to find alternative means of survivals. One of the few options left before the people was return to the agricultural fields. Land was, and still is, the only resource that majority of the people fall back on. Many view the ban as a blessing in disguise for there was hardly any people, especially the men in the fields, as they found easy job with the *malik dieng* (timber merchant) and moreover the money was good. With the implementation of the ban many young men returned are seen ploughing and working in the field. Besides the back to the land option, many families have migrated to coal belts and lime quarries in search of alternative avenues of employment and earning.<sup>t</sup> In one village, Thungmarwei, on the way between Nongstoin and Rambrai, people have now shifted to surface coal digging, an activity that had come up previously during the last five years. In Mawthoh and Umpiang villages, local people collect barks of trees, dry them on the open ground, pack them in jute bags and await middlemen to pick them up in bulk in trucks. The villagers are given lump sum money for each bagful of barks. They said that there was a high demand for the barks which had medicinal value as well as being used as spices. In the local market in



Riangdo areas, women sell various jungle products such as leaves, roots, seeds, variety of wild fruits, besides vegetables and mushroom etc.

Twenty years ago, when Sor Lyngkhoi, set-up the first saw mill at Nongstoin in the West Khasi Hills, B. Jyrwa opened a small *jadoh* stall (vernacular restaurant) alongside the saw-mill to cater to the timber workers. Within a few months, she expanded her shop and employed four girls to run her thriving business.

“I used to cook 10/15 kg of rice every day and still would run out of food, she said. “There were so many people around doing so many things”. Looking at Jyrwa’s tremendous success, others also opened up food and tea stalls. With the passage of time garages, a small medical store, a petrol pump etc started doing brisk business. The whole area turned out to be a hub of timber activities. “At least, 200 truck loads of timber used to ply Nongstoin everyday,” said Lyngkhoi, who made money from the thriving logging business and learnt the trick to trade.

Suddenly with the Supreme Court Order (ban), the entire chain of activities collapsed. Kong Jyrwa recollects, “There was no work in the saw mills, garages, shops etc. Hundreds of young people went out of jobs. Many people closed down the shops and left the place”. She too had to trim down her business and run the shop alone to look after her family of five. Kong Jyrwa was among 20,000 families in the West Khasi Hill District who were completely immobilized by the ban.

According to K.K. Singh Phanbuh, President of Meghalaya Land and Forest Owner Association, the ban has affected and crippled all sphere of life. People have migrated from various villages to the towns, mainly to Shillong for earning their livelihood by doing petty business like selling *Kwai* (betel nut), selling newspapers, carpentry, maid servants etc. and many youths from the district have joined underground militant groups due to dearth of job. Moreover, the students studying in distant places had to come back, mainly due to financial crux in the family. Both the

forest owners and *malik dieng* had to resort to other alternatives and sell off all the buffaloes, trucks and close down the saw mills.

The attempt by the West Khasi Hill District administration and the forest department to close down the 18 illegal saw mills in the District amid protests by the people turned violent (13 at Nongstoin and 5 at Rambrai) following the 1996 Supreme Court ban.

Herein lays the crux of the problem. The restriction on timber felling did affect the forest owners and contractors who have a lucrative stake in the business but the burden of earning a livelihood has more seriously affected the thousands of farmers, workers and woodcutters for whom the forest has always been the primary source of livelihood. In such a context, charcoal burning and selling has become a viable livelihood option for the poor and marginalized people living in West Khasi forests. Thus, this saw the emergence of an ecological crisis at hand.

**Table 4.4: Forest Coverage in West Khasi Hill District**

<b>Year</b>	<b>Dense Forest</b>	<b>Open Forest</b>	<b>Total Forest</b>	<b>Percentage</b>
1999	1,397	2,345	3,742	71.30
2001	1,098	1,869	2,967	56.55
2003	1,555	2,302	3,857	73.50

*Source:* State Forest Report, Govt. of Meghalaya, Shillong, 2004.

From the table 4.4, one can come to the conclusion that after the ban, the forest coverage in the district has increased manifold. In the year 2003, the total forest coverage increased to 73.50 percent from 56.55 percent in 2001. The year from 1999 to 2001 saw a dip in forest coverage due to charcoal trade and shifting cultivation.



This transition of activity was also responsible for a lot of destruction in the forest cover of the district and ecological imbalance in the environment.

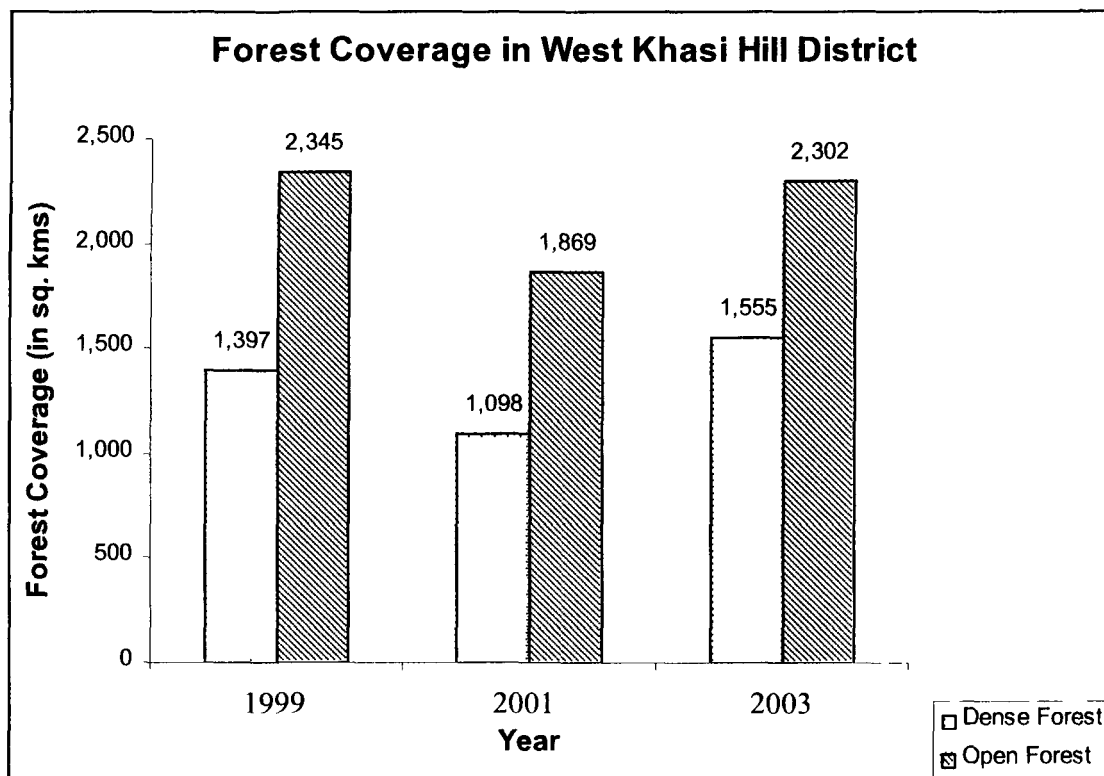


Figure 4.4

## List of Plates



Plate No 4.1: Forest cleared for Timber



Plate No 4.2: Degraded Forest



Plate No 4.3: Forest cleared for Charcoal



Plate No 4.4: Mixed Forest



Plate No 4.5: Truck carrying Timber



Plate No 4.6: Licensed Sawmill



Plate No 4.7: Abandoned Sawmill



Plate No 4.8: Closed down Tea Stalls



Plate No 4.9: Seized Timber



Plate No 4.10: Firewood



Plate No 4.11: Charcoal Kiln



Plate No 4.10: Stock of Charcoal

## CHAPTER – V

### Conclusion

The Forestry Ban ordered by the Apex Court had upset many things. Though the nomenclature points to the Supreme Court of India, it has been a misnomer. What the Apex Court did was to ask Government of India to implement its own rules (Forest Conservation Act 1980) and stop all 'non-forest activities' in designated forest areas. It also put in place a mechanism to oversee the process of implementation, assuming that the Executive has erred in not implementing its own rules.

However, like a natural calamity, it immobilized thousands of families, in areas where legal or illegal forest based activities was the main engine of livelihood system, especially in the backward district of West Khasi Hills of Meghalaya. The situation worsened with the concerned State Government failing to respond to the dislocation of families and human sufferings caused by the logging ban. The government initiative was half-hearted and grossly inadequate. People were in dire need, looking for any alternative livelihood, which the district administration failed to offer without any "policy" or "a package" from the State Government.

There were hardly any government development schemes which helped the villagers. Excepts for occasional grants to a few villages for a play ground here or a community hall there or a footpath or small kuccha road, nothing came from the local legislator's fund. The poor, marginalized people were left to fend for themselves.

On the other hand, the Meghalaya Farmers Union had supported the Supreme Court's Ban on timber and other items of the forest. The Union said that the trading

of timbers affects the environment and ecology. All the same, it was pointed out that the decision of the Court was somewhat out-of-touch with the ground realities. The importance of the environment could not be ignored, but the core issue of joblessness also needs to be looked into. Also, the order should not have banned the use of minor forest products, which are the main stay of the employment for the people in interior areas of the State.

The need of the hour is to give up all non-essential use of forest produce. The natural forests should be totally protected and clear felling banned. Only selective felling should be permitted in exceptional cases. This is necessary because a stage has come where any further degradation of the forests would be disastrous to the entire society. However, some things are easier said than done because a lot of factors restraint the procedure taking action.

**Problems:**

- i) The State Government has limited area under its control, large part fall under Khasi Autonomous District Council or private ownership, hence, enforcement of rules and regulations handicapped.
- ii) Absence of local enterprises (industries) to process the forest resource is also a hindrance to development.
- iii) Agricultural system practised is still primitive or based on shifting cultivation.
- iv) Land tenure system which is community or clan or village based is another setback. Therefore, no proper scientific and systematic management is possible.



- v) Awareness on environmental aspect like conservation and utilization is far from expectation.

**Suggestions:**

Modern society reveals three main concerns- social, environmental and economic. In the typical socio-economic conditions of the study area, where the people rely heavily on forest utilization for their livelihood, the comprehensive approach should be planned in such a manner that there would be net addition to a perpetuating stock even after meeting the essential food, fodder, fuel and timber extraction requirements of the people, as well as, the growing requirements of commercial exploitation.

Some suggestions for upgrading the economy affected due to the ban have been listed below:

- i) Development of alternatives like agro- forestry models in shifting agriculture and establishment of cottage industries.
- ii) Joint forest management through people's participation because success of any work is ensured if people toil and share the responsibility.
- iii) Publicity through mass and media, trainings etc is of importance to increase awareness of environmental values and conservation.
- iv) Harness community institution to ensure greater coordination between the government machinery, people and voluntary organization to enhance productivity of forest and forestland under protective care and supervision.

- v) Emphasis on economic diversification and value added products. Increase non timber demands like tourism, handicrafts, herbal medicine.
- vi) Alternatives to fuel-wood by propagation of more efficient *chullhas*, solar cookers and biogas.
- vii) Synthetic alternative to timber like plastics, steel, and other metals, fibre glass, concrete and agricultural residue should be encouraged to help reduce the pressure on the remaining natural forest.

The Supreme Court Order ban on timber indirectly saw the increase of forest cover, from 56.55% in 2001 to 73.50% in 2003, in West Khasi Hills district. An effort for systematic study is required to understand the value and importance of forest. Vast forest resources remain to be tapped, but proper sustainable utilization is required to enhance potentials for further socio economic development. With the intervention of the Supreme Court, exploitation has been contained to a large extent and there is hope that the resource will be wisely utilized and recovered in future what is lost.

With the approval of the Working Scheme of forest in West Khasi Hills District by the Ministry of Environment and Forest, India with reference to the Letter No 12-4-48/2004/RONE/2794-98 w.e.f. 25<sup>th</sup> October, 2005 the cutting of timber and other forest activities were allowed to undertake for the period of five years, i.e. from 25<sup>th</sup> October, 2005 to October, 2010. The relaxation by the Central Government has brought back the life in the District as a whole, where the people started to re-open the saw-mills, varieties of shops and allied activities, as well as the sell of various forest products to other district and to the nearby states.

The logging ban has an after effect on people's livelihood in the region but the loss of livelihood and human sufferings that followed the ban actually stemmed from a deeper issue of development problems, rather than the collapse of booming trade (in forest produce) in Meghalaya.

The issues are (a) economic under-development, (b) poor agricultural practices and acute rural poverty and (c) rural unemployment in the district. With governmental apathy in all the above fronts, it is obvious that people in the district generally are left to fend for themselves. Under the circumstances, the ban on forestry activities came as a bolt from the blue. Had there been other economic activities or cushions for unemployed or under employed or opportunities for wage work, perhaps the sufferings of the people of the district could have been minimized.

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## APPENDICES

### Appendix-A: List of Flora of WKH

Scientific Name	Trade Name	Vernacular Name
<i>Tectona grandis</i>	Teak	Teak
<i>Carpinus viminea</i>	Hornbeam	Dieng Sohrian
<i>Shorea robusta</i>	Sal	Dieng Sal
<i>Micheliachampaca</i>	Tita sopa	Dieng Rai
<i>Phoebe goalparensis</i>	Bonsum	Dieng Nganblei
<i>Gmelina arboria</i>	Gamari	Dieng Baphiang
<i>Morus lavaegata</i>	Bola	Dieng Bylliat
<i>Mesua ferrea</i>	Nahor	Dieng Ngai
<i>Pinus khasiana</i>	Red pine	Dieng Ksehsaw
<i>Terminalia myriocarpa</i>	Hillock	Dieng Thar
<i>Amoora wallichii</i>	Pat amori	Dieng Bta
<i>Amora rohituka</i>	Amari	Dieng Bta
<i>Cassia fistula</i>	Snaru	Dieng Snaru
<i>Talauma phelocarpa</i>	Kherika sopa	Dieng Langsnam
<i>Cedrella toona</i>	Poma	Dieng Bti
<i>Pinus insularis</i>	White pine	Dieng Lieh
<i>Calophyllum polyanthum</i>	-	Dieng Lakaru
<i>Betula alnoides</i>	Birch	Dieng Lieng
<i>Bridelia retusa</i>	Kuhir	Dieng Rietshan
<i>Castanopsis lysteri</i>	Hingery	Dieng Mangkaliang
<i>Albizia odoratissima</i>	Kalasiris	Dieng Kreitsaw
<i>Albizia procera</i>	Safedsiris	Dieng Kreitong
<i>Albizia lebbek</i>	Karoi	Dieng Kreitrlong
<i>Duabanga sonneratoides</i>	Khokan	Dieng Sai
<i>Lophepetalna fimbriatum</i>	Rumu	Dieng Jahjrem
<i>Cinnamomum cecicedaphine</i>	Gonsoroi	Dieng Ringwait
<i>Dipterocarpus turbinatus</i>	Gurjan	-
<i>Artocarpus chaplasi</i>	Chama	Dieng Laram
<i>Vitex penduncularis</i>	Ahoi	Dieng Shyrtoh
<i>Lagerstroemia parviflora</i>	Sida	Dieng Lynshing
<i>Lagerstroemia flosroginae</i>	Jarul	-
<i>Schima sp</i>	Makri sal	Dieng Ngan
<i>Chikrassia tabularis</i>	Rogi poma	Dieng Btitynneng
<i>Mangifera indica</i>	Am	Dieng Sohpieng
<i>Adina cordifolia</i>	Haldu	Dieng Btitynneng
<i>Apodytes benthamina</i>	-	Dieng Lapedjem
<i>Dyseyllum hamiltonii</i>	Gendheli poma	Dieng Kyrbei
<i>Garuga piñata</i>	Thetmola	Dieng Pjiarshynrang
<i>Garuja gamolai</i>	Pani amera	Dieng Sohkhmet

<i>Podogarnas perifolia</i>	-	Dieng Ksehblei (Kynthei)
<i>Taxus baccata</i>	Yew	Dieng Ksehblei (Rit sal)
<i>Caralia lucida</i>	-	Dieng Sehumtynneng
<i>Anthocephalus cadamba</i>	Kadam	Dieng Sohklong
<i>Anthocephalus lakaoocha</i>	-	Dieng Sohphan
<i>Anthocephalus intefricolia</i>	Kathal	Dieng Sohphan
<i>Magnetic sopa</i>	Dewa sam sopa	-
<i>Hymenodietyon exelsum</i>	-	-
<i>Bischofia javanica</i>	Uriam	-
<i>Eugenia sp</i>	Jamun	Dieng Sohum
<i>Bombax ceiba</i>	Simul	Dieng Kynphad
<i>Magnolia sp</i>	Baramtheri sopa pan sopa	Dieng Sohbar
<i>Manlietia caveana</i>	Baramtheri sopa pan sopa	Dieng Larseikynthei
<i>Poyalthia simiarum</i>	Borkolicri	Dieng larsei
<i>Cynometra polyandra</i>	Ping	Dieng Raiheh
<i>Alnus nepalinensis</i>	Alder	-
<i>Kayon floibunda</i>	Karal	-
<i>Masonia dipikai</i>	Badam	-
<i>Palagium polyanthum</i>	Kurttu	-
<i>Tetrameles nudiflora</i>	Bhelu	Dieng Moina
<i>Kydia calycina</i>	Pichela	Dieng Jainnep
<i>Spondias magnefera</i>	Ama tenga	Dieng Sohpair
<i>Pterospermum sp</i>	Hati poila	Dieng Slaumphu
<i>Grewia sp</i>	Pichholi	Dieng Thapbalieh
<i>Zanthoizyllum</i>	Bajrang	Dieng Jaiurkhlaw
<i>Prunus sp</i>	-	Dieng Sohiong
<i>Sapium baccatum</i>	Seleng	Dieng Jalong
<i>Trewia nudiflora</i>	Gutel	-
<i>Lansea grandis</i>	Jhingan	Dieng Sohliat
<i>Alstonia scholaris</i>	Chiatin	Dieng Lawkyrteng
<i>Rhus succedanea</i>	-	Dieng Kain
<i>Ailanthus sp</i>	Berpat	Dieng Kyrteng
<i>Dillenia indica</i>	Outenga	Dieng Sohkyrbam
<i>Melia azedarachta</i>	Chora neem	Dieng Sohdienglieng
<i>Litsea sp</i>	-	-
<i>Sterculia sp</i>	Udal	Dieng Tluh
<i>Albizia stipulata</i>	Saw, Harish	Dieng Phyllut
<i>Dillenia pentagyna</i>	Okshi	Dieng Sohbar
<i>Celtis australis</i>	Manhita	-
<i>Erythrina sp</i>	Madar	Dieng Song
<i>Moringa sp</i>	-	Dieng Lakhiat

Source: Divisional Forest Officer, Khasi Hills Division (T), Shillong, 2004.



**Appendix-B-1: List of Fauna of WKHD (Mammals only)**

<b>Scientific Name</b>	<b>Common English Name</b>	<b>Local Name</b>
<i>Calasiorus pycarithnus</i>	Hoary Bellied Squirrel	Risangrit
<i>Canomya badis</i>	Bay Bamboo Rat	Dkhan
<i>Caryo unicolor</i>	Sambar	Sier
<i>Capicarius sumatraensis</i>	Sorrow	Khiat
<i>Canis aureus</i>	Jackal	Myrsiang
<i>Drassonya lokshiah</i>	Orange Bellied Himalayan Squirrel	Rising
<i>Elephas maximus</i>	Indian Elephant	Hati
<i>Felis chaus</i>	Jungle Cat	Ksar
<i>Galundra ellioti</i>	Indian Bush Rat	Khnai lum
<i>Hylopetus hoolock</i>	Hoolock	Huleng
<i>Herpertas urva</i>	Crab Eating Mongoose	Bsong
<i>Hylopetus labonocar</i>	Flying Squirrel	Jalyngkhiat
<i>Hystix indica</i>	Indian Porcupine	Diengkhiat
<i>Hystix kodomai</i>	Hogren Porcupine	Brai
<i>Lutra lutra</i>	Common Otter	Ksih
<i>Lepus kuficandatus</i>	Rufoustailed Hare	Rabbit heh
<i>Macaca mulata</i>	Rhesus Macaque	Shriehsaw
<i>Macaca assamensis</i>	Assamese Macaque	Shriehiong
<i>Meluraus ursinus</i>	Slothbear	Dngiemrit
<i>Martes flaviguta</i>	Himalayan Throated Marten	Phylled
<i>Muntacus muntjak</i>	Barking Dear	Skei
<i>Manis cressicaudata</i>	Indian Pangolin	Kyrbei heh
<i>Neofelis nebulosca</i>	Clouded leopard	Khlabthuh
<i>Pteropus giganteus</i>	Indian Flying Fox	Labadur
<i>Sus scrofa</i>	Indian Wild Boar	Sniangkhlaw
<i>Viverricula indica</i>	Small Indian Civet Cat	Kui rit
<i>Canis lupus</i>	Indian Wolf	Suri
<i>Rousa pascheanautli</i>	Fruit Bat	Lymbit

Source: Divisional Forest Officer, Khasi Hills Division (T), Shillong, 2004.

**Appendix B-2: List of Wildlife in West Khasi Hill District (Reptiles)**

<b>Scientific Name</b>	<b>Common English Name</b>
<i>Python molurus</i>	Indian Roch Python
<i>Typhlina bramina</i>	Blind Snake or Common Worm
<i>Olicodon arnensis</i>	Common or Branded Kukri
<i>Xenochrophis piscolor</i>	Checkered Keelback
<i>Plyas mucosus</i>	Rat Snake
<i>Bhastulla nasulus</i>	Vine Snake
<i>Trimerersurrus gramineus</i>	Bamboo or green Pit Viper
<i>Calotes varicolor</i>	Common garden Lizard or Blood sucker
<i>Kachuga sylhatensis</i>	Khasi Hills fresh water Tortoise

Source: Divisional Forest Officer, Khasi Hills Division (T), Shillong, 2004.

**Appendix B-3: List of Wildlife in West Khasi Hill District (Birds)**

<b>Scientific Name</b>	<b>Common English Name</b>
<i>Phalacrocorax</i>	Little Cormorant
<i>Bulbulcus ibis</i>	Cattle egret
<i>Egretta garzetta</i>	Little egret
<i>Aldeola grazii</i>	Paddy bird or Ponf Heron
<i>Anas crecca</i>	Common teal
<i>Gyps bebalensis</i>	Bengal Vulture
<i>Coturnix coromandalica</i>	Black breasted or Rain quail
<i>Venellus indicus</i>	Red wateled lapwing
<i>Streptopelia orientalis</i>	Rofous turtle dove
<i>Chalcophaps indica</i>	Emerald Duck
<i>Streptopelia decaocto</i>	Spotted Dove
<i>Macropygia unchalla</i>	Bartailed Cukoo dove
<i>Alcedo atthis</i>	Small Blue Kingfisher
<i>Halcyon smyrensis</i>	White Breasted Kingfisher
<i>Microplernus brachyurus</i>	Rufus Wood pecker
<i>Dinopium bengalensis</i>	Golden backed Wood pecker
<i>Dinopium shorii</i>	Golden backed three toed Wood pecker
<i>Ceryle lugubris</i>	Pied Kingfisher
<i>Pyenonobis melanicterus</i>	Black headed yellow Bul Bul
<i>Pyenonobisleucogenys</i>	White cheeked Bul Bul
<i>Calerida cristata</i>	Crested Lark
<i>Alauda gulgula</i>	Indian small skylark
<i>Dierurus adsimlus</i>	Drango or King Crow
<i>Gracula relegiosa</i>	Grackle or Hill Myna
<i>Dierurus paradiscus</i>	Racket tailed Drango
<i>Sturnus pagodarum</i>	Black headed Myna
<i>Acridotheres tristis</i>	Indian Myna
<i>Coryus macrorhynchos</i>	Jungle Myna

<i>Copsychus saularis</i>	Magpie Robin
<i>Teron phoenicoptera</i>	Common Green Pigeon
<i>Haematornis cheela</i>	Crested Serpent Eagle
<i>Gallus gallus</i>	Red Jungle Fowl
<i>Psittacula cyanocephala</i>	Blossom headed parakeet

Source: Divisional Forest Officer, Khasi Hills Division (T), Shillong, 2004.

**APPENDIX – C: List of Licenced Saw/Veneer Mills**

<b>Sl.No</b>	<b>NAME AND ADDRESS</b>	<b>LOCATION</b>
1.	Shri.Bung Kharlukhi J.K.Saw/Veneer Mill Pvt.Ltd.	12 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
2.	Mrs.Meera Marak M/S Meera Sawmills.	15 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
3.	Mr.Public Lamare M.P.Road and Mill Pvt.Ltd.	15 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
4.	Shri. Sandeev Bajoria M/S Railway Sleepers Allied Product (P) Ltd.	Byrnihat Indusrial Estate Plot No.1
5.	Shri. Puroshotam Maharka M/S Bynihat Wood Industries	15 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
6.	Shri. Suresh Kodia M/S S.K. Pine Forest Product	15 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
7.	Shri. Jitendra Kr. Suden M/S Jitendra Saw Mill Pvt. Ltd	12 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
8.	Shri. Puroshottam Kedia M/S Meghalaya Pine Forest Product	12 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
9.	M/S Thimpack Pvt. Ltd.	15 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
10.	Shri. Sunil Kumar Jain M/S Continental Veneer/Sawmill	16 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
11.	M/S Santina Sohshang. Sawmill Cum Veneer Mills	Mawiaban,Nongstoin, West Khasi Hill District.
12.	M/S Vishal Saw Cum Veneer Mill	Umiam Industrial Estate
13.	M/S Vineet Timber Industries	15 <sup>th</sup> Mile G.S.Road,Byrnihat, Ri-Bhoi District
14.	M/S Shally Lyngdoh.	Mawiaban,Nongstoin, West Khasi Hill District.
15.	M/S Shillong Veneer and Sawmills	Umiam Industrial Estate
16.	Mawshynrut Veneer Product.	Mawiaban,Nongstoin, West Khasi Hill District

17.	M/S Domina Pathaw Sawmill.	Umiam Industrial Estate
18.	M/S Saini Timber Industries.	Umiam Industrial Estate
19.	M/S Timber Craft and Veneer Product.	Umiam Industrial Estate
20.	M/S M.N. Sawmill Cum Veneer Mill.	Umiam Industrial Estate
21.	M/S Porla Ply Product.	Nongstoin, West Khasi Hill District
22.	M/S Riando Veneer (P) Ltd.	Umiam Industrial Estate
23.	M/S Eastern Saw Mills.	Umiam Industrial Estate
24.	M/S Vikash Sawmills.	Umiam Industrial Estate

*Source:* Divisional Forest Officer, Khasi Hills Division (T), Shillong, 2004.

## **APPENDIX–D: Forest (Conservation) Act, 1980 with amendments (1988)**

An act to provide for the conservation of forests and for matters connected therewith or ancillary or incidental thereto.

Be it enacted by the Parliament in the Thirty –first Year of the Republic of India as follows:-

### **Sec.1. Short Titles, Extent and Commencement.**

- (1). This Act may be called the Forest (Conservation) Act, 1980.
- (2). It extends to the whole of India except the state of Jammu and Kashmir.
- (3). It Shall be deemed to have come into force on the 25<sup>th</sup> day of October, 1980.

### **Sec.2. Reservation on the Deforestation of Forest or use of Forest land for non-forest purpose.**

Notwithstanding anything contained in any other law for the time being in force in the State Government or other authority shall make, except with the prior approval of Central Government, any order directing-

- i).that any reserved forest (within the meaning of the expression “reserved forest” in any law of time being in force in the State) or any portion thereof shall cease to be reserved;
- ii).that any forest land or any portion thereof may be used for any non-forest purpose;
- iii).that any forest land or any portion may be assigned by way of lease or otherwise to any private person or to any authority, corporation, agency or other organisation not owned, managed or controlled by Government;
- iv).that any forest land or any portion thereof may be cleared of trees which have grown naturally in that land or using it for re-afforestation.

**Explanation:** For the purpose of this section, “non forest purpose” means the breaking up or clearing of any forest land or portion thereof for-

- a). the cultivation of tea, coffee, spices, rubber, palms, oil-bearing plants, horticultural crops or medicinal plants;
- b). any purpose other than re-afforestation, but does not include any work relating or ancillary to conservation, development and management of forests and wildlife, fire lines, wireless communication and culverts dams, water holes, trench marks, boundary marks, pipelines or other like purposes.

**APPENDIX –E: Supreme Court Order**

**IN THE SUPREME COURT OF INDIA  
CIVIL ORIGINAL JURISDICTION**

**WRIT PRITION (CIVIL) No.202 OF 1995**

I.N.Godavarman Thirumulkpad ... Petitioner

Versus

Union of India & Ors. ... Respondents

(With W.P.(Civil) No.171/96)

**ORDER**

In view of the great significance of the points involved in these matters, relating to the protection and conversation of the forests throughout the country, it was considered necessary that the Central Government as well as the Governments of all the States are heard. Accordingly, notice was issued to all of them. We have heard the learned attorney General for the Union of India, learned counsel appearing for the States and the parties/applicants and, in addition, the learned Amicus Curiae, Shri H.N. Salve, assisted by Sarvashri U.U. Lalit Maherder Das and P.K. Manohar. After hearing all the learned counsel, who have rendered very able assistance to the Court, we have formed the opinion that the matters require a further in-depth hearing to examine all the aspects relating to the National Forest Policy. For this purpose, several points

which emerged during the course of the hearing for some time to enable the learned counsel to further study these points.

However, we are of the opinion that certain interim directions are necessary at this stage in respect of some aspects. We have heard the learned Attorney General and the other learned counsel on these aspects.

It has emerged at the hearing, that there is a misconception in certain quarters about the true scope of the Forest Conservation Act, 1980 (for short the 'Act') and the meaning of the word "forest" used therein. There is also a resulting misconception about the need of prior approval of the Central Government, as required by Section 2 of the Act, in respect of certain activities in the forest area which are more often of a commercial nature. It is necessary to clarify that position.

The Forest Conservation Act, 1980 was enacted with a view to check further deforestation which ultimately results in ecological imbalance, and therefore, the provisions made therein for the conservation of forests and for matters connected therewith, must apply to all forest irrespective of the nature of ownership or classification thereof. The word "forest" must be understood according to its dictionary meaning. This description covers all statutorily recognized forests, whether designated as reserved, protected or otherwise for the purpose of Section 2 (i) of the Forest Conservation Act. The term 'forest land', occurring in Section 2, will not only include "forest" as understood in the dictionary sense, but also any area recorded as forest in the dictionary sense, but also any area recorded as forest in the Government record irrespective of the ownership. This is how it has to be understood for the purpose of Section 2 of the Act. The provisions enacted in the Forest Conservation



Act, 1980, for the conservation of forests and the matters connected therewith must apply clearly to all forests so understood irrespective of the ownership or classification thereof. This aspect has been made abundantly clear in this court in Ambica Quarry Works and ors. Versus state of Gujarat and ors.(1987(1) SCC 213),Rural Litigation and Entitlement Kendra versus State of U.P.(1989) Suppl. (1) SCC 504),and recently in the order dated 29<sup>th</sup> November,1996 in W.P.(C) No. 749/95 (Supreme Court Monitoring Committee Vs. Mussoria Dehradun Development Authority and ors).The earlier decision of this court in the State of Bihar vs. Banshiram Modi and ors.(1985 (3) SCC 643) has ,therefore to be understood in the light of these subsequent decision. We consider it necessary to reiterate this settled position emerging from the decision of this court to the doubt, if any, in the perception of any Sate Government or Authority. This has become necessary also because of the stand taken on behalf of the State of Rajasthan, even at this late stage, relating to permissions granted for mining in such area which is clearly contrary to the decisions of this court. It is reasonable to assume that any State Government which has failed to appreciate the correct position in law so far will forthwith correct its stands and take the necessary remedial measures without any further delay.

We further direct as under:-

1. General:

In view of the meaning of the word “forest” in the Act, it is obvious that prior approval of the Central Government is required for any non-forest activity within the area of any “forest”. In accordance with Section 2 of the Act, all ongoing activity within any forest in any States throughout the country,

without the prior approval of the Central government, must cease forthwith. It is, therefore, clear that the running of saw mills of any kind including veneer or ply-wood mills and mining of any minerals are non forest purposes and are, therefore, permissible without prior approval of the Central Government. Accordingly, any such activity is prima facie violation of the provisions of the Forest Conservation Act, 1980. Every State Government must promptly ensure total cessation of all such activities forthwith.

2. In addition to the above, in the tropical wet evergreen forests of Tirap and Changlang in the State of Arunachal Pradesh, there would be a complete ban on felling of any kind of trees therein because of their particular significance to maintain ecological balance needed to preserve bio-diversity. All saw mills, veneer mills and ply-wood mills in Tirap and Changlang in Arunachal Pradesh and within a distance of 100Kms. From its border, in Assam, should also be closed immediately. The State Governments of Arunachal Pradesh and Assam must ensure compliance of this direction.

3. The felling of trees in all forests is to remain suspended except in accordance with the Working Plans of the States Governments, as approved by the Central Government. In the absence of any working Plan in any particular State, such as Arunachal Pradesh, where the permit system exists, the felling under the permits can be done only by the Forest Department of the State Government or the State Forest Corporation.

4. There shall be a complete ban on the movement of out trees and timber from any of the seven North Eastern States to any other States of the country

either by rail, road or water-ways. The Indian Railways and the State Government are directed to take all measures necessary to ensure strict compliance of this direction. This ban will not apply to the movement of certified timber required for defence or other Government purposes. This ban will also not affect felling in any plantation comprising of trees planted in any area which is not a forest.

5. Each State Government should constitute within one month an Expert Committee to:

i) Identifying areas which are “forest”, irrespective of whether they are so notified, recognized or classified under any law, and irrespective of the ownership of the land of such forest.

ii) Identifying areas which were earlier forests but stand degraded, denuded or cleared and

iii) Identifying areas covered by plantation trees belonging to the Government and those belonging to private persons.

6. Each State Government should within two months, file a report regarding:-

i) The timber of saw mills, veneer and ply-wood mills actually operating within the State, with particulars of real ownership.

ii) The licensed and actual capacity of these mills for stock and sawing.

iii) Their proximity to the nearest forest.

iv) Their source of timber.

7. Each State Government should constitute within one month, an Expert Committee to assess:-

i) The sustainability of the forests of the State qua saw mills and timber based industries;

ii) The number of existing saw mills which can safely be sustained in the State;

iii) The optimum distance from the forest, qua that State, at which the saw mill should be located.

8. The Expert Committee so constituted should be requested to give its reports within one month of being constituted.

9. Each State Government would constitute a Committee comprising of the Principal Conservator of Forests and another Senior Officer to oversee the compliance of this order and file status reports.

## **APPENDIX – F**

### **NORTH EASTERN REGIONAL OFFICE**

**Dated: 25/10/2006**

No.12-4-8/2004/RONE-ML/2794-98

To

The Secretary,  
Government of Meghalaya,  
Forest & Environment Department,  
Shillong.

### **GOVERNMENT OF INDIA MINISTRY OF ENVIRONMENT AND FOREST**

Sub: Approval of Working Scheme of Forests areas of West Khasi Hills District (1<sup>st</sup> phase).

Sir,

The working scheme of the forest West Khasi Hills District covering an area of 181.35 sq. Km in the first phase has been examined in accordance with the provisions of Forest (Conservation) Act, 1980 as amended from time to time, National Forest Policy, 1998 as well as order of the Hon'ble Supreme Court of India in CWP 202 of 1995 and circulars issued by the Government of India from time to time.

After careful consideration of the proposed working scheme, approval of the Central Government is hereby conveyed under section -2 of Forest (Conservation) Act, 1980 subject to the observance of the following conditions:

1. The approval shall be effective from the date of issuance of this letter is for the period of 5 years i.e., November, 2005 to October, 2010.

2. All the prescriptions prescribed in the working scheme regarding regeneration, protecting and development of the forest will be strictly complied with and any change in the prescriptions of the working scheme will be treated as deviation for which prior approval of competent authority shall be obtained.
3. All the orders of the Hon'ble Supreme Court of India or other courts as applicable shall be strictly complied with.
4. Sufficient budgetary allocations must be ensured for implementation of various prescriptions regarding protection, regeneration and development of the forests and all the prescriptions mentioned in the working scheme must be carried out as per schedule. All the felling must commensurate with regeneration and no felling would be permitted unless funds for regeneration are available. Hon'ble Supreme Court of India's order in this regard will be strictly complied with.
5. Dead and dry volume extracted will be added to the yield and in case prescribed yield has been achieved from dead and dry volume, no further felling will be carried out. Yield from dead, dry and salvaged timber must not exceed the prescribed yield in the working scheme.
6. Chief Forest Officer, Khasi Hills Autonomous District Council (K.H.A.D.C.) shall be responsible for carrying out the marking of trees to be felled and supervising felling conversation and transportation for timber. He shall carry out his responsibilities to the satisfaction of P.C.C.F., Meghalaya. Transportation and conversation of timber should be as per directives Hon'ble Supreme Court of India's order in WP (C) 202 of 1995.
7. The provision of Meghalaya Protection of Catchment Area Act 1990 and the Meghalaya Forest (Removal of Timber) Regulation Act 1981 shall be strictly followed.
8. Annual yield for Pine Working Circle is restricted to 1500 cum. Only, tress with 90 cm. and above diameter only be extracted.

9. Annual yield for broad leaf mixed species should not exceed 17000 cum. and exploitable diameter as per species prescription in the working scheme be strictly followed.
10. Re-vegetation of forest must be ensured and funds released from green cess be utilized for re-vegetation and development of forest under control of K.H.A.D.C., and also for felled areas in case of default by the private owners.
11. Principal Chief Conservator of Forest shall constitute a Monitoring Committee with a representative of N.E. (R.O) of the Ministry of Environment & Forest for monitoring the progress of marking, felling and re-generation of forest area and direction issued by this Committee shall be binding on the forest owners.
12. Details of forest areas diverted under Forest (Conservation) Act, 1980 if any, shall be appended in the Working Scheme.
13. Mid-term review of the Working Scheme will be carried out in the year 2008.
14. The Central Government reserves the right to review/ modify or withdraw this approval at any point of time depending upon the management needs and orders of the Central Government/Court.
15. A copy of each of the working Scheme may be sent to the ICFRE, IGNFA and FSI, Dehra Dun.

Yours Faithfully

(KHAZAN SINGH)  
Chief Conservator of Forest (C)

Copy to:

1. The Director General of Forest & Special Secretary, Government of India, Ministry of Environment & Forest, Paryavaran Bhavan. New Delhi.
2. The Principal Chief Conservator of Forest, Government of Meghalaya, Shillong for necessary action.

## CURRICULUM VITAE – SHEMBHALANG KHARWANLANG

1. **Surname** : Kharwanlang
2. **Name** : Shembhalang
3. **Sex** : Male
4. **Date of Birth** : 12<sup>th</sup> May 1980
5. **Father's Name** : R. Nongkynrih
6. **Mother's Name** : B. Kharwanlang
7. **Permanent Address** : Khliehshnong, Cherrapunjee  
E. K. H. Dist., Meghalaya
8. **Marital Status** : Unmarried
9. **Present Occupation** : i. Lecturer in Geography,  
St. Dominic's College  
ii. Lecturer in Environmental  
Education, Sohra College

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