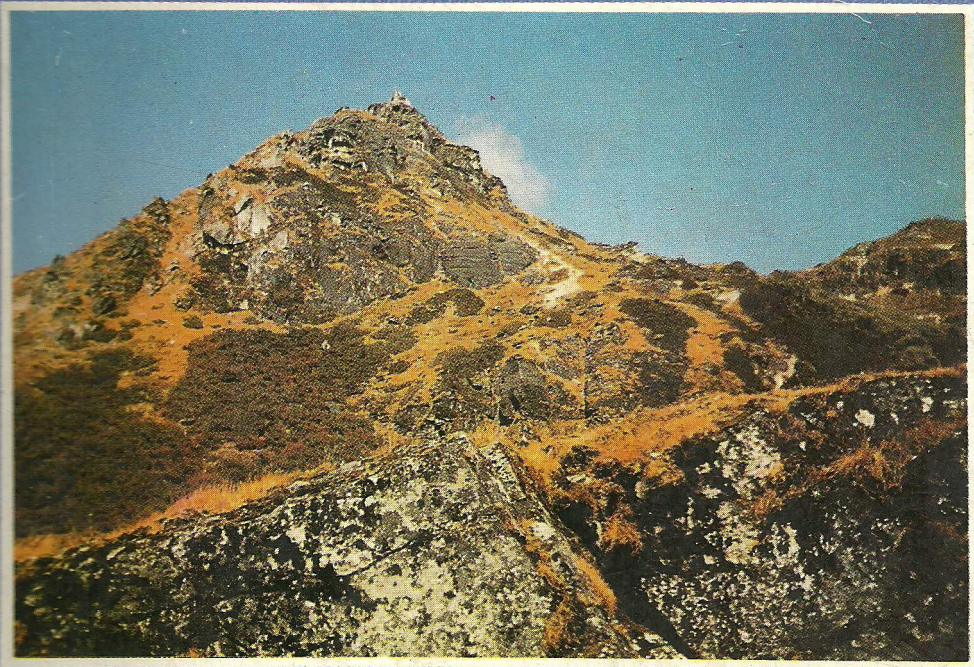


# Ecorestoration of Degraded Hills



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B. K. Tiwari  
and  
Surendra Singh

### About the Book ...

The existence of extremely degraded hills and grassland ecosystems in the tropical and sub-tropical humid areas of the world is an unresolved ecological problem. There is a view of ecologists that the present landscape of these wet areas has emerged as a consequence of deforestation and interference of man. The similar type of situation is prevailing in the degraded hills of the North-Eastern Region of the country specially in Meghalaya plateau which receives the highest rainfall of the world. Denudational forces and processes of degradation accelerating in these areas are to be studied carefully for the restoration of ecosystems.

The practical problems of degradation of the tropical wet lands specially of Meghalaya plateau have been discussed and scientific solutions of these problems are suggested. The present volume '**Ecorestoration of Degraded Hills**' is an outcome of two workshops, namely, '**Environmental Problems of Meghalaya Plateau**' and '**Technologies for Ecorestoration of Cherrapunjee Plateau**' organised by the Centre for Eco-Development, North-Eastern Hill University, Shillong. Fourteen papers have been classified into four broad sections, viz., (a) Eco-Restoration : Concepts and Approaches; (b) Problems of Hill Farming; (c) Geoenvironmental Degradation and (d) Forest and Wild life Protection.

The book, '**Ecorestoration of Degraded Hills**' is very much useful for the researchers who are working on the problems of environmental degradation and is expected to open new dimensions of the facts to the environmental scientists and planners of the country.

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# *Ecorestoration of Degraded Hills*

*Edited By*  
**B.K. Tiwari**  
and  
**Surendra Singh**



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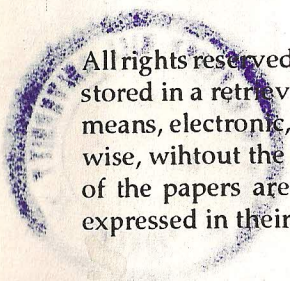
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## Preface

Interaction of man with the environment is inseparable as man derives all his requirements from the biotic and abiotic components of the environment around him. The civilization and cultural traits are important parts of human environment. The modern culture, which is largely based on the materialism of the West and follows limitless principles of economic development, does not fit under the ambit of ecological jurisprudence which impose the limits to development and requires to follow some natural laws that regulate the relationships of organism with environment. The habitat dictates these rules of the environmental limits and defines the *niche* of an organism including man in the system. Thus, there seems to be a conflict between nature, controlled environmental systems and uncontrolled human activities which disturb the interrelationships among animate and inanimate components of a particular ecosystem. The key component of ecorestoration is to prepare an integrated strategy for rehabilitation of an ecosystem which is dynamic and where the equilibrium between regeneration and utilization of resource is maintained. The systems which are studied under ecorestoration of an ecosystem where man is the key component involve the decision-making processes, its social acceptance and also its short and long term effects on the activities of man, the resources and functioning of the system.

The question arises how to accelerate decision-making processes to restore the degraded environment? Say for example, the questions of resource utilization, environmental degradation, pollution and the qualitative improvement of life and so on deal with ecorestoration and self-sustained growth of the system. The issues and spot-seen-problems of ecodevelopment and ecorestoration of any system are closely related to three major aspects :

- (a) to search for major issues related to environmental degradation,
- (b) to highlight the problems of local inhabitants related to other abiotic and biotic factors of the environment, and
- (c) to provide solution for optimal growth and attainment of balance between use and replenishment of resources.

There is ample need to stress on these issues and problems of ecodevelopment especially with reference to the environmental conditions prevailing in the hill areas of North-East India where human interaction with nature is intensified and is adversely affecting the rich and well-established intricate balance between man and environment. For studying the issues and problems of eco-development, the Meghalaya plateau of the North-Eastern Hill region of the country is chosen as a case study. The plateau is provided with strong geo-processes and harbours rich biological resources required for supporting a sustainable society. Despite of all favorable environmental conditions, the forests, the aquatic bodies, the wildlife, and the landuse system of the region are greatly disturbed. The Meghalaya plateau is a true representative tropical as well as sub-tropical wet forest lands of the world because it receives the highest rainfall of the world with the moderate temperature. The Cherrapunjee area is the most affected part of the plateau which is now called- 'the Tropical Wet Desert'. Denudational forces and processes of degradation accelerating in these areas are to be studied carefully for the restoration of ecosystems.

The present volume is the product of the deliberations in two workshops, namely, '**Environmental Problems of Meghalaya**' and '**Technologies for Eco-restoration for Cherrapunjee Plateau**' organised by the Centre for Eco-Development, North-Eastern Hill University, Shillong, in which the real issues and problems of environmental degradation were discussed involving the local voluntary organisations, villagers and scientists from various research organisations. We are hopeful that, through this volume, the ground realities of the eco-development problems of the hill areas of the region have been highlighted and their solutions are provided for the protection of the environment in an integrated manner. The studies included in this volume have wide applications in understanding the environmental problems and regional developmental planning particularly with reference to the hill areas of the tropical and sub-tropical lands of the world.

Place : Shillong

B.K. Tiwari

Date : 25th January 1995.

S. Singh

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# Land Ownership Pattern in Meghalaya

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## Introduction

Meghalaya, the 21st state of Indian union, lies from 25°47' to 26°10' North latitudes and 89°45' to 92°47' East longitudes. It is bounded by the state of Assam to the North and East and Bangladesh to the South and West. It is one of the hill states of North-East India. It comprises 5 districts, namely, West Garo Hills, East Garo Hills, West Khasi Hills, East Khasi Hills and Jaintia Hills with an area of 22429 sq. kms. It is predominantly a tribal state. According to 1981 census, the total population of Meghalaya is 1335819 of which tribal population is 1076345, i.e., 80.52 per cent. The major tribes that inhabit the state are the Khasi-Jaintia in the Khasi and Jaintia Hills districts and Garos in the Garo Hills district.

The climate of Meghalaya is neither too hot in summer nor too cold in winter, but it varies regionally due to uneven hilly terrain. The Northern and Southern slopes as well as the Western border lands of the state are warm in winter due to lower altitudes of these areas. But the central plateau is cold during this season. The average temperature of Meghalaya is 22°C in the summers and 10°C in winters. The average annual rainfall is 400 inches.

The economy of Meghalaya is predominantly agriculture based. Agriculture is a major activity in the state, both in terms of employment, resource and its contribution to total production. The state has a major portion of its workforce engaged in agricultural sector. According to 1981 census, 72.54 per cent of its total main workers and 83.79 per cent of total rural main workers are directly engaged in this sector. This figure shows a high population pressure on land like other parts of the country; the rapid growth rate of population and population density within a few decades also indicate an increasing pressure on land in the state. Since the population pressure on land is increasing, the study of land management, land use and land ownership patterns have become more important.

The present paper attempts to study land ownership pattern in Meghalaya in relation to its physical and socio-cultural background.

## **Land Ownership**

The basic concept of land ownership, according to Davis (1978), is that of tenure, i.e., the right of capacity to have and hold land for certain uses. According to Hoebel and Frost (1976) land tenure deals with the interrelated network of rights, duties privileges and immunities which individuals and groups within a society observe in relation to land resources. The U.N.O. report on progress on land reform (1970) has given the definition of ownership of land as :

"... the right to use land, together with the right to transfer that right to others. Also both of these rights are more or less circumscribed by national or local laws, so that exact context of 'ownership' varies from society to society".

The pattern of land ownership plays an important role in landuse and agricultural development planning. Therefore, the better understanding of the form of land ownership and related laws give an insight into the problems faced by our present day society specially in the field of agricultural development and landuse planning. The form of ownership and accompanying laws are quite different in Meghalaya than those of other parts of the country. Even in Meghalaya, they differ from place to place and from one tribe to the other. Land ownership system in Meghalaya is broadly of two types, *viz.*, *Riotwary* and Customary land systems which vary from district to district. The principle of *Riotwary* system is that the Government deals directly with the actual land holders without the intervention of intermediaries. Customary system is totally different from *Riotwary* system. According to U.N.O. report on progress on land reform (1970), in Customary land tenure,

"the right to use or to dispose of use rights over land rests neither on the exercise of brute forces, nor on statutory evidence of rights guaranteed by Government statute, but on the fact that they are recognized as legitimate by the community, the rules governing the transmission of these rights being usually explicit and generally known, though not normally recorded in writing".

On account of variations of the physical features in the state, there are three important tribes, *viz.*, Garos, Khasis and Jaintias inhabiting in the three different hills and have different socio-economic traditions. Therefore, the land ownership patterns also vary accordingly. The detail study of the land ownership may be described in the following manner.

### (a) Ownership Pattern Among Garos

In Garo Hills, *Riotwary* system is prevalent in the *mauzas* which have plain lands and Customary system in the hill *mauzas*. The existing pattern of land ownership in Garo Hills is related to the types of cultivation practised in the areas. Among the Garos, shifting cultivation practising private ownership, is restricted and everybody has a particular usufructuary right on land, i.e., they have the right to use land without possessing an actual title of ownership. But by the arrival of wet-rice cultivation which makes private ownership of the land essential, a change in the pattern of land ownership has emerged and private ownership has increased. In many cases, private ownership is associated with permanent holdings. But unlike other peasant societies in the plains, the Garos, even if they possess such a sort of permanent holdings on land, they cannot sell or transfer it to the outsiders (non-natives) if the holding is inside one's *Aabhang* land. It means the land should be always with the native community and is a common property of the people.

The village territory under a chief is known as *Aabhangland*. The *Aabhang - Nokma* who is the heiress daughter of a family and is selected from the oldest family among the *Machongs* initially belongs to two super clans, called *Chatchi*, viz., *Sangma* and *Marak*. The *Chatchi* develops strictly as the descendants of the same mother who lives in geographically delimited areas, are called *Machongs*. The *Abhang-Nokma* is the actual owner of the *Aabhang* land but her husband (*Nokma*) acquires the right of managing the whole property of the village. The *Nokma*, however, has no power of selling any part of the territory to another village or man without the permission of the respective *Maharis* in the village. The institution of *Mahari* consists of the members closely related through common motherhood and collectively responsible for the conduct and security of the members and protection of the family property (Bhattacharya 1985). In the event of a person, who desires to cultivate land

within the boundary of another *Nokma*, he would give an undertaking to pay a trifling amount of the produce to the *Nokma* of the latter at the time of harvesting. Such kind of payment is known as *Harshel*. *Harshel* may, therefore, be considered as a kind of rent, which varies in different localities. A *Nokma*, however, does not take *Harshel* from his own village members. The *Aakhing* or *Aabhang Nokma* in matter of cultivation is like a common villager. But as regard to the forest resources in the *Aabhang* land and in distribution of plots, he has certain prerogatives (Banarjee 1972). Titiev (1944) expresses,

“the village chief is the theoretical owner of all his village’s land; these lands are divided among the clans residing in his village”.

Among the Garos, a user right on land does not necessarily confer any right to property. The wild and semi-wild trees are regarded as community property and everybody has the right to use it, if it is not grown inside one’s plot. If a man plants tree, it belongs to him and he may retain the right of ownership of the tree which he has planted even after forfeiting his user right to the land. If a man decides to allow some of its plots to lie fallow, no other person may use them without the specific permission of the earlier user as well as *Nokma* of the village.

### (b) Ownership Pattern Among Jaintias

In Jaintia Hills, there is no rigid, uniform or regular systems worth the name with the exception of those under the State Forest Department and Local District Council. However, the land can be placed under following categories (Lahiri 1979) :

(i) *Ri Kynti* or private land : Total area under this category is 7266 acres and they are known as “*Biniaj*”.

(ii) *Raj Land* : All *Raj* lands which have been brought under wet paddy cultivation are subjected to payment of

annual revenue. The revenue is fixed according to the fertility of land which is classified as *Hali*; (land class I, II and III). The revenue varies according to these three classes from 50 paise to 87 paise per year. There are altogether 28683 plots covering a total area of 19709 acres in Jaintia Hills district. But in Khasi Hills, no such revenue exists.

(iii) **Land under Zamindars** : In the border areas (War area) of both Khasi Hills and Jaintia Hills districts, there are some big land holders who are locally known as *Zamindars*. There is no record of the number of such *Zamindars* nor the areas of land held by them. Generally the *Zamindars* lease out their land on the basis of rent in cash or in kind.

In the Jaintia Hills, *Doloi* elected from among the male members of the original clan or clans (*Kurs*) who were the earliest settlers of Raj or *Illaka*, in the pre-British period had the power and authority to grant license and *pattah* for cultivation of a newly terraced wet rice cultivation. This privilege remains with the *Doloi* even today. The individuals granted such new *pattah* for their wet rice cultivation have to pay a yearly fee to the *Doloi*. Such payments are shared by the *Doloi* and his deputies. In some villages where abundant forests for the jhum cultivation in the Raj lands are available, the village Headman convinces the should take place. After the selection of the place, the village Headman with the help of the other village officials distributes the land to all the families and see that all get their due share. The jhum land is divided among the cultivators according to their farming abilities (Gassah 1980).

### (c) Ownership Pattern Among Khasis

In Khasi custom, there are many laws related to land and its accompanying ownership. Therefore, the classification of land ownership is extremely complicated. On the basis of three basic criteria of owner of land, 4 types of land ownerships have been identified in Khasi Hills (Haloi 1984).

These are :

- (i) private ownership,
- (ii) group ownership,
- (iii) community ownership, and
- (iv) the Government ownership.

**(i) Private Land :** The land over which the single owner or individual family owners enjoy all the rights at will and in no case is subjected to the control of any superior authority, can be defined as the private land. Barih (1976) describes that the owner of these land enjoys all the rights over land. The owner can sell or buy at will. No owner needs to pay any revenue to any authority. The Land Reforms Commission (1974) clarifies that the State Assembly or any other Assembly has no control over the private land except with regard to the settlement of dispute about them if and when they are brought to the Assembly of the village. Roy (1934) states that the land property may be of ancestral or purchased type. The lands coming under this category are:

- (i) *Ri-Nongtymmen*, (ii) *Ri-Maw*, (iii) *Ri-Khurid*, (iv) *Ri - Bitor*,
- (v) *Ri - Dabhol*, (vi) *Ri-Shyieng*, (vii) *Ri-Phriang*, (viii) *Ri-Spah*,
- (ix) *Ri-Langdung*, (x) *Ri-Samla* and (xi) *Ri-Nongmei Nongpa* .

Thus, the *Ri Kynti* or private land system endows with absolute possession of land. According to the land reform commission, *Ka-Khadduh* (youngest daughter of the family) gets more share in comparison to her other sisters. If the parents of the family do not have any daughter, then the family brings a *Ka-Khadduh* from the sister's family immediately to the mother. In absence of them, the family prefers a cousin daughter from the mother's side. Through *Pynbem* (a land distribution ceremony) land is distributed among the sisters of the family. The mother with an uncle or a brother living in her house, or with husband or alone may apportion the land among her children. In case of her (mother's) death

before apportion, the *Ka-Khadduh* by herself can not dispose the property. And when mother is no longer alive, *Ka-Khadduh* as the custodian of the ancestral property is to be assisted by her elder sisters or brothers in its management. A purchased plot of land also becomes an ancestral property of the family just after one or two generations.

(ii) **Group Land** : The land over which the owner's rights, especially the transferable right, are subjected to the control of group-assembly, can be defined as the group land. The group may consist of a branch of a clan or a group of clans having assembly individually. The members of each and every group are the owners of these land. Each and every group has own *Durbar* (Assembly). As Chowdhari (1978) describes, all members of the concerning group enjoy use-right, occupy right and heritable right at will over their land but no one is entitled to sell the land individually. According to the Land Reform Commission, the right of transfer of land rests upon the decision of the concerned assembly of the group. Gurdon (1975) says that no one need to pay any land revenue to any authority and, thus, it is also applied to the tenants of *Ri-Kynti*.

*Ri-Kynti*, belonging to a clan, which has not been divided, is known as *Ri-Kur* (Roy 1934). The control and management of these lands rest upon the *Durbar-Kur* (clan assembly) where the eldest uncle of the clan acts as the head. In absence of suitability of the uncle, the eldest brother or another brother who is considered suitable, is elected as the head of the *Durbar-Kur*. The *Durbar - Kur* takes decisions also on the partition (if it is desired to be done) of *Ri-Kur* of a clan among its various branches.

After the division of *Ri-Kur* among the branches of the clan, the branches form their own *Durbar*. According to the report of Land Reform Commission, the *Durbar* with the eldest uncle of the branch as head acts as the authority of control and management. The branch assembly and the *Durbar-Kur* work in the same way. The work of the clans

assembly is also the same as the other two assemblies. The following various categories of land come under the group land. These are :

(i) *Ri-Kur*, (ii) *Ri-Seng*, (iii) *Ri-Khain*, (iv) *Ri-Durbar*, (v) *Ri-Lyngdoh*, (vi) *Ri-Iapduh* (if owned by clan), (vii) *RiSyiem*, (viii) *Ri-Sniah*, (ix) *Ri-Kut*, (x) *Ri-Law Sumar* (if owned by clan) and (xi) *Ri-Bam Syiem*.

**(iii) Community Land :** The land which can not be transferred by users or even by the community assembly, but the other rights are subjected to the control of the community assembly, come under community land. A community may consist of one clan or more than one clans. It may cover single village or many villages. Each and every member of the community can enjoy use right, occupancy right, and some times even heritable right, but after having the approval of the community assembly only.

According to the report of Land Reform Commission for Khasi Hills 1974, every member of the *raid* means community has the use-right and occupancy right over *Ri-Raid* (community land). No one has to pay any land revenue for enjoying these rights. If one has to pay any amount, then it is generally for the improvements of land which the community would have made on the land or for services rendered in its use and cultivation. Roy (1934) states that no one claim more land than what one actually can occupy for cultivation purposes or for any productive use. Any one of the community can use and occupy the vacant plot of community land after having the approval of *Raid-Durbar* (community assembly). Chowdhury (1978) explains that the *Raid-Durbar* is the authority of the allocation and distribution of community land. However, authority can sell community land.

Community land is not heritable and transferable. Of course, exceptions are there. Roy (1934) explains the situation like, if one fails to use and occupy the land after three consecutive fallow years, automatically it goes to the com-

munity assembly and the assembly allots use-right and occupancy right to others. But if the occupant maintains its use, the person can inherit it to his descendants, but in no case he can enjoy the rights of the transfer. According to Land Reform Commission, if one has made permanent improvement (like in the form of cultivation of permanent crops and plants like fruit trees or converting the land into wet paddy fields or by making permanent building etc.), he may be endowed with transferable rights. Of course, a person loses all rights if he leaves the plot or let it become jungle growth. The community assembly decides the period after which the property may be treated as having revert back to the community. Only a Khasi of the same community can have the use right and occupancy right over community land. A Khasi from another community also enjoy these rights, if he submits himself to the jurisdiction of the community and has been accepted and recognised as one belonging to it by the community assembly. The report of the Land Reform Commission for Khasi Hills (1974) states that except *Durbar-Hima* (State Assembly) no Khasi administrative body has the right over community land to allow the use-right and occupancy right to a *Mynder-Ri* (Non-Khasi) by issuing *pattas* and levying and realising land revenue or land rent from him. The following categories of land come under the community land :

(i) *Ri-Shnat*, (ii) *Ri-Kuna*, (iii) *Mynsain*, (iv) *Lamsain* or *Somraid* or *Ri-Pud*, (v) *Ri-Lynter*, (vi) *Ri-Law Kyntang*, (vii) *Ri-Law Lyngdoh*, (viii) *Ri-Law Niam*, (ix) *Ri-Law Sumar*, (x) *Ri-Law Adong*, (xi) *Ri-Law Shnong*, (xii) *Ri-Shmong* (sometimes), (xiii) *Ri-lalah Mukotduma*, (xiv) *Ri-Umsnam*, (xv) *Ri-Bamlang*, (xvi) *Ri-Aiti Mon Sngewbha*, (xvii) *Ri-Phlang-Ribam Duh* and (xviii) *Ri-Diengsaiduebghub*.

Among these categories some are special land kept by the community for specific uses. The forest land kept for religious and medicinal purposes are: (i) *Ri-Law Kyntang*, (ii) *Ri-Law Niam*, (iii) *Ri-Law Lyngdoh* and for the purpose of

firewood, timber, water etc. are : (i) *Ri-Law Adong*, (ii) *Ri-Law Sang*, (iii) *Ri-Law Shmong* and (iv) *Ri-Law Sumar*.

**(iv) Government Land :** The land which has been leased, purchased or acquired under various rules issued from time to time by the Government can be defined as Government land. The Land Reform Commission for Khasi Hills states that the Government of India has taken the land in the Khasi Hills under various rules issued by the Government. According to the related rules, the Government enjoys all the rights over land. The following categories of land are under Government land: (i) Exchanged land, (ii) Purchased land, (iii) Leased land and (iv) Acquired land.

As the Khasi, Jaintia and Hill *Mauzas* of Garo Hills districts have not yet been cadastrally surveyed, no record of land ownership has been prepared by the Government. So, it is very difficult to say the actual area under different types of land owned by various authorities in this region.

In general, the wet-rice fields which are permanently cultivated are basically under the private ownership in Meghalaya. But the *jhum* land can be either under private ownership, group ownership or community ownership. The forests are under group, community or public ownership. Forests which are under the public ownership the villagers also have some use rights over these forests (Haloi 1984).

Within the past few years, the new agrarian relations have been developed in Khasi-Jaintia Hills of Meghalaya. The increasing trend in private ownership has been found and a good portion of land is now under private ownership (Sen 1985). In some places, the village headman and the heads of different land owning assemblies are also overlooking the customary laws and helping to increase private land ownership due to their individual interest. A 50 years old report states that, in the areas of Khasi-Jaintia Hills, much of the community land (*Ri-Raid*) was converted into private possession (*Ri-Kynti*). In the areas situated in the surround-

ings of Shillong town where land fetches high prices, certain village headmen claimed that the *Raid-Durbar* has a right to sell *Raid-lands* and give these land to people as *Ri-Kynti* (David Roy 1934). It is to be remembered that the *Ri-Kynti* owners known as *Bahhraws* are considered as aristocrats. These aristocratic clans always owned better and more fertile land of the village and mostly waste and less fertile lands were distributed among other clans known as *Khian-Kur* or Commoner's clan (Pakem 1984). A number of case studies conducted in recent years have also shown a concentration of land holdings under the ownership of a few families in a village with consequent rise in landlessness and share cropping (Vincent 1976, Lahiri 1979, Blah 1981). As Lahiri states that there are share-croppers or *Adhiars* in a large number in Meghalaya. According to the report on Socio-Economic Survey conducted in Khasi and Jaintia Hills (1966-67), there is about 4 per cent increase in the number of share croppers over a period of 15 years (1951-66).

It is also indicated by the Survey Report that the land is concentrated in a few hands most of whom do not cultivate themselves. A typical case is the village Hat Mawdon in Mawsynram Community Development Block wherever eleven out of fifteen families are found to be landless and were share croppers in the land owned by the other 4 families (Dutta 1981).

According to the Khasi custom and the logic of community ownership of land suggest that a family can hold land only in the village where they reside. But there has been transfer of land between persons who are residents of different areas also. In the Mynsain village, out of 30 families only 6 families have land of their own for cultivation of paddy and the major portion of paddy growing land is owned by a person who is not a resident of that village (Lahiri 1979). The situation negates the hitherto believed motion that land in the Khasi and Jaintia Hills are under community ownership (Kar 1981). The situation in Garo Hills is not different either.

Now-a-days, traditional ownership is being replaced by private ownership. In Garo Hills, it is observed that through various development schemes the State Government also sponsored such fashions of community ownership. For example, all terrace plots initially prepared and financed by the Government were subsequently allotted to different households (Kar 1981). Thus, the egalitarian system of community ownership is being replaced by private ownership with the development of societies in the region.

There are many advantages and disadvantages of community ownership. The community ownership among the cultivating communities generally places difficulties in the way of adopting improved farming and land use, in which every one tends to be regarded as equal, which discourages the individual initiative. The land can not be used as security for development loans, land use planning, farm planning and the introduction of better farming system are rendered difficult. But community ownership of land and communal responsibility in agriculture offer its members security. The community ownership system provides an excellent foundation for the co-operative farming system towards which many parts of the world are moving. In the present degrading environmental conditions in the hills of Meghalaya, the community ownership system is also preferred because the hill tribes are accustomed to community way of living.

Thus, it can be concluded here that the pattern of land ownership and the classification of land is positively related but it is a task to understand the subject because of non-availability of correct and required data. However, the present study highlights the facts that, for better management of land, it is necessary to have a clear and simple system of land classification and ownership. The complex pattern of ownership prevailing in this state are often found difficult for legal interpretations. One of the major impediments of the existing land laws and ownership practices are not conducive for the financial institutions like banks and co-operative societies

and, consequently, the rate of development is very low. In this connection, it can be said obviously that a systematic study of the land ownership pattern in relation to customary laws must be undertaken. Therefore, for a faster agricultural development in the region, a systematic study of the land laws and the land ownership patterns is necessary to simplify and standardize the land ownership patterns and its related customary laws.

### References

1. Bannery, N. K. (1972): An Appraisal of Shifting Cultivation in India, in L.P. Patel (e d.) : *Agro-Economic Problems of Tribal India*, Delhi.
2. Bareh, H. (1978) : *The History and Culture of the Khasi People*, Acharya Praffulla Chandra Road, Calcutta-4.
3. Bhattacharya, J. B. (1985) : Social Formation in Precolonial Garo Society Problems and Process, in S. K. Chattopadhyaya (ed.) *Tribal Institution of Meghalaya* , Spectrum Publications, Guwahati.
4. Blah, R. P. (1981): Past and Present Agrarian Social Structure, Paper Presented in a Seminar on *Land Relations in the Hills of North East India*, NEICSSR, Shillong (unpublished).
5. Chowdhuri, J. N. (1978) : *The Khasi Canvai*, Shillong - 1.
6. Devis, K. P. (1976): *Land Use*, Mac-Graw Hill Book Co., Delhi.
7. Dutta, B. B. (1981): Land Relation in Khasi Hills- A Study in Ownership and Alienation, Paper Presented in a Seminar on *Land and Land Relation*.
8. F.A.O. and I.L.O. (1970): *Progress in Land Reform* (Fifth Print). U.N.O., New York.
9. Gassah, L. S. (1980) : *Traditional Leadership in Jaintia Hills: The System of Political Administration in the Past and Present*, Unpublished M.Phil Thesis, Department of Sociology & Anthropology, NEHU, Shillong.
10. Gurdon, P. R. I. (1975): *The Khasi*, Cosme Publication, Delhi-6.

11. Hobel, E. A. and Frost, E. C. (1976): *Cultural and Social Anthropology*, Mec-Graw Hill Co., New York.
  12. Haloi, K. (1984): *Concepts of Landuse and Owner-ship in East Khasi Hills*, Unpublished M. Phil Thesis, Department of Geography, NEHU, Shillong.
  13. Kar, P. C. (1979): Land Relations and Changing Agricultural Practices, in B. Dutta Ray (ed.): *Agriculture in the Hills: A Case Study of Meghalaya*, NEICSSR, Shillong.
  14. Lahiri, B. (1979): Land Relations and Changing Agricultural Practices, in B. Dutta Ray (ed.): *Agriculture in the Hills: A Case Study of Meghalaya*, NEICSSR, Shillong.
  15. Momin, P.G. (1977): Land Use Pattern in Meghalaya, Paper Presented in a Seminar on *Resource Base & Problems of Regional Development of North-Eastern Region of India*, Department of Geography, NEHU, Shillong (Unpub.).
  16. Pakem, B. (1984): State Formation in Pre-Colonial Jaintia, *The NEHU Journal of Social Sciences*, Vol. II, No. 3.
  17. Roy, D. (1934) : Land Tenure in the States, in *Sir Keith Cantlie's Notes on Khasi Laws*, Ri Khasi Press, Shillong.
  18. Rymbai, R.T. (1974)(Chairman) : *Report of the Land Reforms Commission for Khasi Hills*.
  19. Sen, S. (1985) : *Social and State Formation in Khasi and Jaintia Hills*, B.R. Publishing Co., New Delhi.
  20. Vincent, K. (1976) : A Peasant Economy in Tribal Area - A Case Study of Bhoilymbong Village in the Khasi Hills of Meghalaya, in T. Mathew (ed.): *Proceedings of the Seminar on Tribal Economy*, Department of Economics, NEHU, Shillong.
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