

Chapter 4

***Jhum* Cultivation: Ecology and Colonialism in Manipur**

This chapter looks into *Jhum* cultivation locally called *Pamlou*, which is extensively practice by the hill tribes. It examines how *jhum* or shifting cultivation was the source of livelihood to the hill people and central to the hill economy. It also look into the notion of *jhum* cultivation by the British colonial state, what are the reality of the hill practices, and to what extent this hill cultivation was harmful to the ecology and environment. It also discusses the policy and measures taken by the colonial state to discourage the system. It will be seen that shifting cultivation is a necessary evil to the hill people of Manipur. Since they could not do without it they take all precaution to protect and preserve their forest as much as they can. This will be reflected in their various ritual practices and physical restraints. The shifting of land, almost every year or two, make the forest sustainable for centuries. Nevertheless, the increasing population since the nineteenth century gradually brings ecological damage to the hills and this process of deterioration is taken into consideration here.

Agriculture constituted the mainstay of hill economy during the nineteenth century Northeast India and particular to Manipur state. It forms the backbone economy of the Manipur State about 84% of the total population of Manipur depends on agriculture.¹ A major portion of the State's domestic product is contributed by agricultural sector and provides employment to about 63.95 percent of the working force in Manipur.² The entire communities lived by agriculture and the daily routine is governed by the seasons.³ The tribal of Northeastern India is above all an agriculturist (everything an agriculturalist) and all things dependent on his fields for his existence, and it is perhaps owing to the very primitive and therefore laborious nature of his agriculture that

¹ National Geographical Society of India, *A Regional Geography*, Varanasi, 1971, p. 507.

² *Report on Economic Census*, Government of Manipur, p. 37.

³ J. H. Hutton, *The Sema Naga*, p. 59.

everything in his life almost is made subordinate to the agricultural year.⁴

Mills remarked on Nagas tribe mostly those of the hilly tribal depends very life on his crops.⁵ However, the environmentalist criticize the negative impact of this long practice of shifting cultivation which brought harmful to the local ecology, it noted that how this northeastern fringe of India is so common of eco-degradation cultivation (term by the environmentalist)?⁶ Firstly, the land is ideal conditions for shifting cultivation prevail in the region because of extensive forest resources and sparse population. Secondly, the geographical of the region constitutes less than 8 per cent of the country (geographical area) comprises little more than⁷ 25 per cent of the country of forest cover of 63.34 million ha. Thirdly, the surface slope and the amount of rainfall of the region also favoured for this cultivation (Normally shifting cultivation is done on gentler slopes (30-40 degree angle).⁸ Fourth, the shifting cultivation and bamboo plants have close symbiotic association. About 1.35 million acres of India, in the states of Assam, Arunachal Pradesh, Andhra Pradesh, Meghalaya, Mizoram, Nagaland, Manipur, Tripura, Bihar, Orissa, Madhya Pradesh, Karnataka and Kerala.⁹

And the region is endowed with luxuriant growth of bamboos forests especially in Manipur state. Here, the richness of the bamboos forests described by E.W. Dun:

The whole of the hill ranges lying between the valley of Cachar and valley of Manipur are densely clothed to their summits with tree jungles..... The tree forest presents a great variety and in the ranges lying west of Manipur valley

⁵ J.P. Mills, *The Rengma Nagas*, Directorate of Art and Culture, Govt. of Nagaland, 1982 [1937] , p. 75.

⁶ About 2.6 million tribal people living in the interior hilly areas, practice shifting cultivation.

⁷ B.P. Maithani, *Shifting Cultivation in the North-east India: Policy Issues and Options*, Mittal Publication, New Delhi, 2005, p. 3

⁸ B.P. Maithani, *Shifting Cultivation in the North-east India: Policy Issues and Options*, p. 4.

⁹ S.S. Negi, *A Hand Book Social Forestry*, International Book Distributors, Dehra Dun, 1986, p. 9.

there ranges forest of trees comprising Nagesor, Jarul, India rubber, oak etc. bamboo is plentiful between Cachar and Manipur.¹⁰

The Manipur state is naturally mountainous, with a dense forests with steep and rocky mountains in several parts, however the land is quite fertile. Naturally, the major portion of the land favours for *jhum*, slash and burn or shifting cultivation. Thereby shifting cultivation form the dominant form of hill agricultural system as per excellence of the tribal people. It was rightly noted by Furer-Haimendorf:¹¹

Most of the tribal populations inhabiting the hills of India's northeast frontier practice a system of soil utilization known as slash-and-burn cultivation. This type of cultivation is well suited to mountainous country of tropical zone where the rainfall is substantial.

Forest and agriculture are the major resources of the tribe in which resources of agriculture form the key parts for their livelihood as well as for commercial activities since time immemorial. They depended more or less upon a nature (forest) in many aspects of their life. Resources of various types from which they extract their livelihood, forests of hills enriches in natural resource is the mainstay of economy of the people.¹²

The method of growing crops on the hill slopes extensively practiced in the southern, western and southeastern part of Manipur. It forms the chief means of livelihood of the tribal people, who have evolved this mode of cultivation in response to a difficult terrain and little access to agricultural inputs. Generally, the tribes are hardworking people and love to live on the high hills mountains.

¹⁰ E.W. Dun, *Gazetteer of Manipur*, p. 6.

¹¹ Furer-Haimendorf, Christoph Von, 'Through the Unexplored Mountains of Assam-Burma', *The Geographical Journal*, Vol.91, No.3 (March, 1938), pp. 201-206, <http://www.jstor.org/stable/1787539>, (Accessed: 16/07/2010), p. 29.

¹² Mani, Charenamei, *Forest Resources which is the Zeliangrong Country*, p. 80.

Villages were perched on the summit of the hills and difficult of approached.¹³ Since time immemorial, the nature nursed the hills tribal since the ancestral period. Shifting cultivation is the dominant agricultural production system in the mountainous tract of the north-east India.¹⁴ According to the estimated of Government of India in 1983 there were approximately 633.2 thousand families practicing *jhum* in the country. Of these, as many as 443.3 thousand families, constituting 71.25 per cent of the country, were located in the north-eastern region alone. The remaining large portions of the state land were made up of shifting cultivation popularly known as *jhum* cultivation or *pamlou* in Manipuri. Shifting cultivation is an age old form of agricultural system it also regarded the first step in transition from the food gathering and hunting to food production (nearly 9000 years old)¹⁵ in different form of cultivation, varying according to agro-climatic and socio-cultural setting (however essentially noted the involvement clearing and burning of forests on the hill slopes).

The discourse on *jhum* cultivation became the issue of the century advocating about the impact of shifting cultivation on socio-economy and on the environment.¹⁶ Some scholar and academician states that, scientific studies have been consistent, suggesting that there is optimal utilization of natural resources in the shifting cultivation regime, which is helpful for the stability and sustainability of agriculture in the mountains. Here, the study imperatively tries to mentions the essentially the definitions and terms on *jhum* cultivation given by the different Scholars as follows:¹⁷

Shifting cultivation implies an aimless, unplanned, nomadic movement or an abrupt change in location, either of which may refer to the cropping areas, the agriculturists, or both. Aside from being ambiguous and in many cases

¹³ T.C. Hodson, *The Naga tribes of Manipur*, p. 6.

¹⁴ B.P. Maithani, *Shifting Cultivation in the North-east India: Policy Issues and Options*, p. 3.

¹⁵ B.P. Maithani, *Shifting Cultivation in the North-east India: Policy Issues and Options*, p. 6.

¹⁶ The scholars advocate that shifting cultivation is a wasteful method whereas, the other scholars believe that it is major source of the people and way of life to them.

¹⁷ Conklin, Herold C., *The Study of Shifting Cultivation*, Current Anthropology, vol. 2.1 ,1961, p, 27-61.

inaccurate, these implications do not focus attention on the two most widely shared characteristics of these various systems; firing and following.

Shifting agriculture is an agricultural system which is characterized by a rotation of fields rather than crops, by short period of cropping (one to three years) alternating with long fallow periods (up to twenty and more years, but often as short as six to eight years) and by clearing by means of slash and burn. Shifting cultivation is a form of agriculture in which the cultivated or cropped area is shifted regularly to allow soil properties to recover under the conditions of natural successive stages of re-growth. In a shifting cultivation system, at any particular point in time a minority of 'fields' are in cultivation and a majority are in various stages of natural re-growth.¹⁸ This form of shifting cultivation has been described as an economy of which the main characteristics are rotation of fields rather than crops, absence of draught animals and manuring, use of human labour only, employment of dibble stick or hoe, short period of occupancy alternating with long fallow periods. After two or three years the fields are abandoned, the cultivators shift to another clearing, leaving the old one for natural recuperation. This explains the use of the term shifting cultivation.

Jhum/Shifting Cultivation

As stated earlier, the history of shifting cultivation is trace back to about 9,000 years from the present. Also, it's a matter of great interest that age old prehistoric methods and techniques of food-production is still valid as the principal mode of subsistence farming among the tribals. The archaeological discovered about 1,000 B.C. man's attitude to his environment underwent fundamental changes. It may be by accident that he took to hoe from bow, i.e. from hunter he became food producer. The effects of the productive economy as against food gathering economy of the Old Stone Age upon human societies were so impressive that they stand out to us as revolutionary innovations (Childe, 1956). This had enabled prehistoric Stone Age communities to exercise

¹⁸ www. wikipedia, *Shifting cultivation for Slash and burn farming methods*, (Accessed; 17/8/2015).

control over his food supply. Man began to plant, cultivate and improve species of edible plants by selection (Sharma, 1990). It is a matter of concern to delineate, if possible by archaeological methods the techniques of food production in the prehistoric times and to examine how some of these techniques stand in the live of ancestry of some of the methods of cultivation of the modern times.

Authorities are of the opinion that prehistoric man before they acquired the knowledge and experience to grow plant, experimented in improving the growth of wild species by tending the seedlings. They gathered the grains of the wild species thus tended and used them to supplement their animal food collected by hunting. Archaeologists have shown that the Mesolithic or Middle Stone Age community of former Palestine was the people of this transitional stage (Sharma, 1990). In the next stage man experimented in growing plant by sowing seeds. From the distribution of prehistoric sites of the early food producers, it is evident that the Neolithic farmers were hill or highland dwellers by clearing the patch of jungle on the hill slopes by cutting the trees. Further, develop the devise to prevent the wash away of the loose soil by shower of rain from the seedlings roots in the hill slopes. The prehistoric or Stone Age culture of Manipur is divided into three— i) Paleolithic culture, ii) Haobinhian culture, and iii) Neolithic culture. The history of *jhum* in Manipur is an age old practiced as the history of shifting cultivation. Same methodology is practiced hitherto in the remote areas of Manipur hills.

Land Tenure/Land Holding System and Shifting Cultivation

As mentioned earlier the Manipur land is divided into hills and the valley (with reference to the valley landholding practices), before 1891(pre-colonial) the whole land system was based on “all lands belonged to the Ruler, free to give away or retain as he pleased. Under the Raja an official named the *Phunal Selungba* was in charge of superintending all matters connected with land use and cultivation. Though the king was the absolute proprietor of the land and

could dispose of it as he liked, no one was prohibited from cultivating the land.”¹⁹ However, there is a “common notion that among the Kuki-Chins, there is chiefs' ownership of village lands and among the Nagas there is community system of ownership”.²⁰ With the context of hill tribal areas, there is no such Acts of tenancy system²¹ (one could have the *jhum* land as much as they want according to the need). Among the Nagas tribes the land belongs to individual family and it is individual *jhum* cultivators has the right to bring any changes in his field with his own decision.²²

Generally, cultivation of a plot of land is an entitlement for a bonafide villager but such entitlement does not constitute permanent individual ownership of land in any case. The land around the village within certain fixed bounds is usually the property of the village.²³ Shifting cultivation is an age-old form of agricultural practices by the tribes,²⁴ almost all the tribes living in the hills of Northeast in general and Manipur in particular were involved in *jhum* cultivation.²⁵ The practice of *Jhum*/shifting cultivation is found practiced by hill tribal; it exists since from the very beginning of agricultural history of human kind.

Shakespeare noted this form of agricultural system of Manipur tribe (based on the Lushais tribe):²⁶

¹⁹ Bharat, P. Singh, *A Short History of Land Revenue and Reforms Administration in Manipur*, Nest Advertising & Marketing Pvt. Ltd., Imphal, 2013, p. 2.

²⁰ Gangmumei, Kamei, *Ethnicity and Social Change*, Akansha Publishing House, New Delhi, 2008, p. 258.

²¹ Gangmumei, Kamei, *Ethnicity and Social Change*, p. 258.

²² *Personal Communication*, Gaibirei Rongmei, Age 78 year (M), Thanagong village, Khoupum, Tamenglong District, Manipur.

²³ R. Brown, *Statistical Document of Manipur*, pp. 18 -19.

²⁴ Jayaseelam, *Impact of the Missionary Movement in Manipur*, Scholar Publishing House Pvt. Ltd., Delhi, 1996, p. 45.

²⁵ D. D. Haokip, *Shifting Cultivation and the Tribal of Manipur*, Seminar organized by the Manipur University Tribal Students' Union, Manipur University, Imphal, 2000, p. 2.

²⁶ J. Shakespeare, 'The Kuki-Lushai Clans,' *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, vol. 39, (Jul. - Dec, 1909), p. 17.

The only form of agriculture practised here is that known to us generally as jhuming, and it consists in felling a piece of jungle and when it has completely dried setting fire to it. The ground is thus cleared and manured by the ashes at the same time. Timber which is not entirely burnt is dragged to the side of the plot and made into a rough fence to keep deer out. The surface of the jhum is lightly hoed over and then there is nothing more to be done till the gathering clouds warn the cultivator that the rains are about to break, then everyone sallies out, each with a small basket of seeds slung over one shoulder and the square-ended dao in hand. Line is formed at the lower end of the clearing, and the whole family proceeds slowly upwards dibbling shallow holes with their daos and dropping into each a few seeds. It is considered very lucky to get well soaked while sowing. The chief crop is rice, but the maize, ripening in August, is eagerly looked for by the improvident Lushais who have probably used up more rice than was prudent in the manufacture of beer... The other crops grown are millet, Job's tears, peas, and beans. Tobacco and cotton are also grown for home consumption.

The broad sets of operations of this cultivation are detailed by Negi as followed:²⁷

- (a) Selection of site
- (b) Clearing
- (c) Burning
- (d) Dibbling/Sowing
- (e) Weeding
- (f) Protection
- (g) Harvest
- (h) Threshing
- (i) Storing

²⁷ Negi, S. S., *A Hand Book Social Forestry*, International Book Distributors, Dehra Dun, 1986, p. 10.

(j) Celebration

Generally, the sites of *jhum* were commonly search and selected by elder from the family who has more experienced of *jhuming*. They preserve the memory of other days by taking omens annually to decide the direction in which the cultivation is to be.²⁸ Following the selection of a suitable *jhum* site, the processes of cutting down trees follow up generally in the months of November, December and even to January. Though, the burning of *jhum* fields (forests) had an impact on the land and environment concerned to some extent. The felled trees of wood and twigs and were allowed to dry, fired in the month of March when the weather is sunny and overcast skies are clear. With good deal of skill, knowledge and expert the *jhum* field were fired and be aware of proper burning of twigs and logs keep the area weed-free for a long period for burning this adds more nutrients to the soil, enhances fertility, and reduces the time required for weeding.

Figure: 4



Photo: Jhum after Burning Jungle

²⁸ T.C. Hodson, *The Naga Tribes of Manipur*, p. 51.

Use of machines tools were absent in this form of cultivating (it's primitive) Only the traditional implements tools were used in this system, like smooth and toothed harrow, spade, dao, sickle, triple paddy wooden thresher, paddy spoon and fan, threshing mat, bamboo-baskets etc. This cultivation system involved slashing down of trees and bushes over the forest area, drying and burning, sowing of seeds of host of crops by using stick, dibbler or by hand before the onset of monsoon. Burning of *Jhum* fields was considered to be one of the most important operations for the success of shifting cultivation and provides bulk of their sustenance.²⁹ These tools like iron were generally brought were procured from Cachar and make fashioned for the *jhum* tools like hoe,³⁰ dao, small size spade, spears, axe, dao, hoe, digging sticks or rods, clod crusher, raho, winnowing fan, sieve etc.³¹ Thus, in this form of cultivation there's no a machine or technology except little tools and implements. Therefore, work force is taken as the only labour involved.

Modus operandi: Manuring Methods

The poorly partially burnt logs were collected and put in piles at one place and burnt again to makes a good nursery bed, cut their branches nearly all off, so as to prevent their impoverishing the soil. The unconsumed trunks of trees served as barrier to which come down the face of the hill when it's rains, and prevented to the soil being carried away with it.³² In bamboo jungle, the bamboo stumps serve the same purpose.³³ The leaves and smaller branches were burnt for ashes to serve as manure. A *jhum*, though primitive form of cultivation is undoubtedly provides a good return of productions and with crops spring up amongst the ashes and the charred stumps. Brown stated, the art of preparing a natural

²⁹ T.C. Hodson, *The Naga Tribes of Manipur*, p. 51.

³⁰ R. Brown, *Statistical Document of Manipur*, p. 18.

³¹ Negi, S. S., *A Hand Book Social Forestry*, p. 10.

³² R. Brown, *Statistical Document of Manipur*, p. 18.

³³ R. Brown, *Statistical Document of Manipur*, pp. 18 & 19.

manure (without the chemical) is learn by themselves and to prevents the soil being carried away by the rain, he noted:³⁴

If the felled jungle had been thoroughly dried, the whole is, with the exception of the larger, trees, reduced to ashes. The soil for an inch or two is thoroughly burnt, and having been scratched up with their little hoes, is mixed with the ashes and becomes ready for the reception of seed, which is sown broadcast. They measure their cultivation by the number of baskets required for seed. Across the field in parallel lines, at no great distance apart, they lay the unconsumed trunks of the trees; they serve as dam to the water which comes down the face of the hill when it rains, and prevents the soil being carried away with it. In bamboo jungle the bamboo stumps serve the same purpose. They also used the manure of the cattle to put over the young seeds.³⁵

Similarly, the tree logs also employ the same as bamboos stumps this was further stated by Hodson in his work “The Naga Tribes of Manipur” that:

It is interesting to note the skill with which advantage is taken of the tree logs to employ them as retaining walls to keep the moisture in the ground, thus making use of the principle of the terraced field in places where terraced fields are impossible on a large scale.³⁶

Seed Sowing and its Method

Following the burning of *jhum*, the topsoil in-depth of one or two inches gets completely burnt. Thereby, the soil is scratched up with little hoes and in this process the soil and the ash gets mixed up together and becomes ready for the reception of seed, which is sown broadcast. The seeds of the crops were to be broadcast either by male or female members (especially broadcasting work were done by the expert elder) and the other members followed up to dig out a slight of ground and covered the seeds in order to prevent from the razed of birds or

³⁴ W. McCulloch, *An Account of the Valley of Manipoor and the Hill Tribes*, p. 46.

³⁵ T.C. Hodson, *The Naga Tribes of Manipur*, p. 54.

³⁶ T.C. Hodson, *The Naga Tribes of Manipur*, p. 52.

animals. Here this picture is representing the *jhum* field after fire and the construction of hut/hamlet, where they live and enjoy during the season. Single cropping is the common feature of this cultivation. The inputs are human labor and seeds. Crops raised for a few seasons and areas were abandoned once for a year or more, which they shift over to other lands.

Figure: 5



Photo: Hut: Jhum (after fire) ready for seeding, tree log retaining walls to keep the moisture in the ground

Generally, the Hillman lives by the sweat of his elbow, here W. McCulloch described:³⁷

..if the spot (*jhum* field) happens to be near to the village, he can return in the evening after a full day's work, but at a great distance, as it often is, he must either give up work early to enable him to get back to his village by nightfall or working late remain there. Working exposed to the full influence of the rays of the sun, thirst is soon induced, which often, from there being no water near, must be endured. The field has to be constantly watched against the

³⁷ W. McCulloch, *An Account of the Valley of Manipoor and the Hill Tribes*, pp. 45-46.

depredations of birds and wild beasts, and, weeds being very rapid in growth, to be frequently weeded.

After the sowing stage was over, *jhum* cultivator/*jhumias* pay special attention to the growing crops and the weeds being very rapid in growth is to be frequently weeded four to five times generally. The field has to be constantly watched against the depredations of birds and wild beasts until the works of gathering of the crop was over.

Harvesting and Storage

Harvesting of crops is done in different periods according to the type of crops grown in their *jhum* field. Main crops such as maize, rice millets, pulses and oilseeds are harvested in September and October. And other late crops like ginger, yam and some roots of food item were mostly done the harvest in of December or even the next month of January. The harvested crops fit for the food items were collected and stored in a *Kei* (a big barn in Manipuri) or a granary after dehusking.³⁸ The cut is best out on the field, and deposited in the granary close by the dwelling house as to keep safe from the harm. In this connection, Hodson noted:³⁹

The crop having been cut, is beat out on the field, and the grain carried to and deposited in the granary close by the village. In the carrying, the whole village joins, receiving as recompense a certain proportion of the loads carried and their drink.

When the harvest operations were over, people are free from the routine work of agriculture and they were busy on make merry making which accompany of feasts, marriages and festivals followed.

³⁸ T.C. Hodson, *The Naga Tribes of Manipur*, p. 52.

³⁹ T.C. Hodson, *The Naga Tribes of Manipur*, p. 53

Economic Yield and Crops under *Jhum*

The forest provides, the habitat for both man and animal also gave shelter to the wild life and forests dwellers. The forest provides the fields for the shifting cultivation practised by the forest dwellers. The staple crops are rice, millet, job's tears and maize.⁴⁰ Chilies, pumpkins, and are also grown in the *jhum* and cotton is a very important crop.⁴¹ This they cultivate with rice in elevations suited and with other crops in situation unfitted for that species of grain⁴² and paddy, millets, chilies, beans, cottons and vegetables.⁴³

The chief crop of *jhum* cultivation is rice has been described by Colonel McCulloch as follows:⁴⁴

The chief crop is rice, but the produce is very uncertain, both from the vicissitudes of weather, and the differing richness of the soil which they must of necessity cultivate in their ten years rotation.

Besides, oil seeds, pepper, vegetables of various kind of potatoes, and of inferior quality, ginger, Indian corn, pan leaves⁴⁵ and yarm (of various kinds) were cultivated. In addition, the other than the principal crops (paddy, millets, chilies, beans) the other crops like cotton, linseed,⁴⁶ rape-seed, sesamum, pineapple and jute found grown in *jhum* fields. However, about 90 per cent of the total *jhum* land is occupied by paddy for rice crops were on the whole good.⁴⁷ And maize form the source of profits.⁴⁸

⁴⁰ ARM, 1936-37, p. 15. See also ARM, 1933-34, p. 15.

⁴¹ E. W. Dun, *Gazetteer of Manipur*, p. 79.

⁴² R. Brown, *Statistical Document of Manipur*, p. 18.

⁴³ Charenamei, Mani, *Forest Resources which is the Zeliangrong Country*, p. 80.

⁴⁴ W. McCulloch, *An Account of the Valley of Manipoor and the Hill Tribes*, p. 45.

⁴⁵ R. Brown, *Statistical Document of Manipur*, p. 18. See also ARM, 1933-34, p. 15.

⁴⁶ ARM, 1933-34, p. 15.

⁴⁷ ARM, 1933-34, p. 15.

⁴⁸ ARM, 1933-34, p. 15.

***Jhum* and Socio-religious & Cultural Life**

Manipur state is essentially an agrarian state and the population is mostly rural in character, mainstay of life also forms the basis of their economy. Cultivation of crops is the dominant economic activity, though people living in and around. Manipur consists of hills and plains. The tribal occupied the hills portions who were compelled undulating topography of the state, the inhabitants to adopt the hill slopes of all possible gradients. On the other hand, it is a way of life also it evolved physiographical character of land under subtropical ecosystems of monsoon climate. Though, this system involved low input and low output and labour intensive cultivation system was a long way of culturally associated practiced for their livelihood. Since pre-historic times the tribal moved back and forth through the length and breadth of country (free movement as lifestyle) shifting their settlement near their *jhum*. Historically, the wet rice cultivation, terrace cultivation and *Jhum* cultivation were found practiced in Manipur state. However, the *Jhum* cultivation constitutes the main hills economy (satisfied their economic needs) but also speaks about with their social-economic, religious and his celebrations. It is seen that *jhuming* has a saying of his religion as Hodson exactly noted: ⁴⁹

They preserve the memory of other days by taking omens annually to decide the direction in which the cultivation is to be.

So also, Socio-cultural life and his festivals are closely related with the *jhum*. Some of the tribe of Manipur observes crops gennas though the exact occasions of these seem vary, ⁵⁰ like the festival of Kabui Naga Tribe, noted by Hodson in his work, “The Naga Tribes of Manipur” as: ⁵¹

⁴⁹ T.C. Hodson, *The Naga Tribes of Manipur*, p. 51.

⁵⁰ The first genna was held when they were ready to start felling the jungle for the *jhums*, the second when the jungle was all ready to be fired, the third when the rice was to be sown, and the last when the rice was about to be harvested etc.

⁵¹ T.C. Hodson, *The Naga Tribes of Manipur*, pp. 171-72.

An effigy of a man made of a plantain is hung on a tree, and at it they throw pointed bamboos or sticks. Should the javelin strike it in the head, the thrower, it is said, will kill an enemy, but if it lodges in the belly the thrower is to be blessed with plenty of food. Termination of the “Reengnai” they go through the ceremony of taking the omens in regard to their place of cultivation, but this seems to have descended to them merely as a ceremonial relic of former times, for the circle of cultivation is never broken, let the omens be what they may. These festivals over (those for ear-piercing and the omen taking for the year), the cutting of the jungle for cultivation is commenced, which, when finished, is crowned with the festival.

The cultivation omens are taken by two elders who wash their bodies very carefully and put on new clothes on that day. They must not sleep with their wives the night before the ceremony. Overnight a bamboo is split lengthwise and laid ready. They sit opposite each other holding a portion of the bamboo in either hand. If the bamboos press together the cultivation will not be prosperous in the direction proposed. If the bamboos turn outwards, the fields will be good.

Figure: 6



Photo: Weeding a jhum field - saying on social life of tribal people, labour gang work on rotation process (cooperation and reciprocity)

The figure No.4 shown the pictures of the whole social life of the village were in a *jhum* field, sometime the whole village communities have usually transferred to the *jhum* hut or hamlet (houses) and lived until the agricultural season is over (except on certain village 'genna' and 'festivals') exception of only the old and ill person. As Furer-Haimendorf described the work culture of this type as, they of worked together on the principle 'cooperation and reciprocity' during the day where young men and women have their pleasant time with nature. The social life is centre around the 'labour gang' of which there are at least two or more, often base on the village *morung*.⁵² On the other hand, the practice of *jhum* cultivation has been disagreed by the ecologists, environmentalists and planners as it disturbs the ecosystem causing ecological imbalances. However, *Jhum* in Manipur forest occupies a distinct place in the tribal economy and contributes to represent a vital part of the socio-economic and religious network of tribal life. Besides of food requirements the operation of *jhum* cultivation is associated with their socio-cultural life especially the tribal in the hill. Traditionally feastings were associated with their cultural celebration of festival and merry making and fallow. They also performed a number of ceremonies which were associated their *jhum*. *Jhum* cultivators are quite conscious of much laborious and wasteful method of cultivation of crops in one way. However, the hill tribal of Manipur found continue to cultivated of hundreds years passed because of the following are factor:

- i) The physico-socio-cultural environment has compelled the local people to adopt *jhuming*
- ii) *Jhuming* is a way of life for the tribals. Their needs, food habits, folklores, festivals and the overall cultural ethos have a say in *jhum*

52 Furer-Haimendorf, Christoph Von, 'Through the Unexplored Mountains of Assam-Burma', *The Geographical Journal*, Vol. 91, No. 3 (March., 1938), pp. 201-206, <http://www.jstor.org/stable/1787539>, (Accessed: 16/07/2010), pp. 33-36.

- iii) The mountainous topography, undulating slopes and wet weather conditions almost all the year round provides ideal condition for people to practise *jhuming*.

The practise of *jhuming* is associated with the tribal societies in many ways. The climate, the terrain, the food habits of the people, their socio-economic and cultural needs, their self-reliance and their desire to be close to nature all have a say in *jhuming*. Therefore, their way of life, social organizations, economic institutions, political systems, ceremonies, feasts, festivals and the entire gamut of life are the products of *jhuming* system. Thus, the climate, terrain, food habits, needs, self-reliance, folklores, festivals, and overall cultural ethos have a say in *jhum* despite its adverse ecological and environmental consequences, *jhuming* is not easy to be stopped. In fact, it evolved as a reflex to the physiographical character of land under unique geo-climatic conditions. Besides of *jhum* closely related with socio-economic and cultural life of the hill tribal, it also factors by the 'way of life, population, poor, un-scientific, lack of tools, geographically nature compelled, the mountainous topography, undulating slope surrounding the Manipur provides ideal conditions in which people practice *jhum* cultivation'. The people scattered over the mountains depend for their sustenance on *jhuming* and food gathering from the forest. Under such an adverse physico-socio-cultural environment, lives were of a desperate struggle for survival. Consequently, he is compelled to adopt a primitive mode of cultivation on the undulating slopes of the surrounding hills of Manipur.

***Jhum* Cultivation under British Forest Law**

Manipur forests were classified into three different classes by legal status as Reserved Forests (included under Indian Forest Act of 1927), Protected Forests and Unclassed Forests. Reserved forests were those forests reserved for timber production. Entitling any forest-land or wasteland which is the property of the Government, or over which the Government has proprietary rights, or to the whole or any part of the forest produce of which the Government. The protected

forests constitute any forest land or waste-land which is not included in a reserved forest, but which is the property of the Government, or over which the Government is entitled. These forests are protected under the supervision of the State Forest Department. No forest produces may be removed from the protected forests, except by bonafide villagers of the village notified to be located within the projected forests. Protected forests were under the control of the Government by declaring certain tree species as "Protected land and cutting of such protected trees are prohibited."⁵³ The colonial forest laws prohibit cultivation of shifting cultivation within 50 feet of the road without a compensation for the permanent loss of their forests and *jhum* land. Among them the people near by the highways were affected the most and even lodged complain to the President of the Manipur State *Darbar* (when he was on tour, stating that they had been facing shortage of land and the prohibition had accentuated the shortage).

They demanded to revoke and continue to cultivate the field but it did nothing to change by the colonial authority. On the other hand, the colonial authority proposed a steps to stop this practice of (the impact of custom of the hill tribes become the enemy of ecology) *jhum* cultivation though a little hope of this destruction being stopped, the colonial power described the destruction by the *jhuming* as:⁵⁴

Regret to say, drawn to this subject (shifting cultivation), and further observation only confirmed.

It also stated that the barrenness of many part of the areas and the general want of timber throughout Manipur owing chiefly to the reckless destruction caused by "the peculiar mode of cultivation (shifting cultivation) practiced by the hill

⁵³ Sanatomba Arambam, Singh, *Forest Economy of Manipur Perspectives for Scientific Management*, Ph.D Thesis Department of Economics, Manipur University, Canchipur, 1999, p. 37.

⁵⁴ ARM, 1878, p. 6.

people”.⁵⁵ Further on the Burmese frontier, passed a miles over hills, where the forests had been; recklessly laid low and the charred trunks of noble trees were lying: on the ground, and at night the destroying fire awake by the loud sound; of which lighted up the country foil many miles round.⁵⁶

“The destruction of these forests is the more to be regretted as the trees composing them were not young under grown saplings pre-maturely brought forward by- a tropical sun, but fine old seasoned oaks of eighty or one hundred years growth in a comparatively temperate climate at 4,000 and 5,000 feet above the sea.”⁵⁷ The more intellectual portion of the community (including the maharaja), in fact, object to the waste of timber, but no one has energy enough to stop it and insist on the hill tribes adopting permanent terrace cultivation instead of their present objectionable system. According to the pressure of population increased, the hunter-cum-cultivators of the Neolithic period started clearing more patches in forests to bring them under cultivation. The following steps were recommended by the colonial authority:

- i) Dissatisfied with the old conditions under which a bare livelihood could be obtained from *jhum* cultivation and this is reflected in the increasing desire to settle to wet cultivation and a more existence.⁵⁸
- ii) The State is making every effort to meet this by granting permission for new villages where wet rice can be developed.⁵⁹

The desperate struggle for survival in the mountainous land depends *jhuming* for their sustenance and food gathering from the forest brought an adverse to physico-socio-cultural environment, the practice of *jhum* cultivation had severely attack by the ecologists, environmentalists and planners (disturbs the

⁵⁵ ARM, 1878, p. 6.

⁵⁶ ARM, 1878, p. 6.

⁵⁷ ARM, 1878, p. 6.

⁵⁸ ARM, 1945, p. 5.

⁵⁹ ARM, 1945, p. 5.

ecosystem causing ecological imbalances) though *Jhum* occupies the distinct place of hills economy.

And also, the colonial government not at all prepared any substantial sponsored schemes to restrict this type of cultivation. The colonial authority encouraged wet cultivation and a more existence⁶⁰ but construction of irrigation channels, which provides water to encourage terraced fields and to reduce this unproductive shifting cultivation didn't reached to the hills tribal, to put into end of this cultivation. The agro-based and forest based industries (bee-keeping, piggery, sericulture, horticulture, forestry) and cottage industry were not taken place to alternate the *jhum* cultivation. The measure to control soil erosion, traditional soil erosion control measures were not be adopted (construction of mechanical barriers using logs and poles, bamboos and trash, earthen bunds, vegetative barriers etc.) which tribal were well acquainted and could use them with no trouble. When the difficult terrain encourages isolation of small communities from the larger restrict alternatives. For the hill tribal to such isolated communities, the *jhum* is the only way to meet their required of food and other basic requirements.

Ecology and Shifting cultivation

Jhum cultivation though a long and aged form cultivation and the sustenance of the tribal people. However, today the drawbacks of this system of cultivation are criticized/against by the environmentalist as the *jhum* cultivation is unscientific, crops leading to destruction of flora and fauna and finally eco-degradation. Also this system of agricultural brought problem which creates forest and soil erosion problem.

At different outline scholars and academician are in the discussion, and the debate of the century on *jhum* cultivation, (i.e. between the environmentalists and the other who favour the continuation of *jhum* practices). The system of

⁶⁰ ARM, 1945, p. 5.

Jhum cultivation has many drawbacks claimed by the environmentalists based on multi-dimensional points. The claims of shifting cultivation on the hill tops by felling the trees, bamboos, shrubs and other vegetation during dry winter months and burning the debris and then broadcasting or dibbling seeds without properly working the soil, in cycle is a common feature in the hill areas of the State. The pernicious effect of *jhuming* eroded soil from the upper reaches fills up the streams and reservoirs where siltation takes place. Due to decrease in the water depth in the lakes/reservoirs, life of hydro-electric projects going to be shortened and drying up of many of the perennial sources of water. The quality of environment being seriously affected led to frequent occurrence of flood than earlier and. Ecological balance of the whole region is being endangered. Further, it pointed out, the practice of *jhuming* impacts on eco-degradation or enemy of ecology term by the environmentalists and it described in the following.

Shifting Cultivation and the Local Ecosystem

Jhum cultivation has been much maligned for soil erosion in the mountainous region and flooding down the hills. As stated earlier, *Jhuming* involves cutting of forest, burning of cut stocks and cultivation of variety of crops on hill slopes. The high rainfall and steep hill topography is always associated with problem of severe soil erosion, particularly when the land use system has biotic interference. The evil impacts of *jhum* have revealed quantitative facts on soil erosion hazards associated with various systems practiced on hill slopes. This led to absence of soil conservation measures augmented with high rainfall results in increased runoff, erosion of top soil, decline of soil fertility and low crop yields the study of Md., Bahar on Manipur particular to the Ukhrul district stated:⁶¹

The soil samples which tested from different *jhum* sites concludes pH value of the soil increased slightly in all the sampled soils after burning. Percentage of

⁶¹ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, B. R Publishing Corporation, Delhi, 2005, p. 176-176.

organic carbon in the soils decreased after burning. The quantity of potassium (K₂O) increased substantially after burning. While the amount of phosphorus in Kg. per hectare is more or less same before and after burning.

Further the single most destructive factor affecting forests is forest described by Negi (the lost of millions of rupees). He highlights the destructions by fires in points as:⁶²

- a) Damage to the crop
- b) Damage to regeneration
- (c) Damage to productivity of the forest
- (d) Effect on the protective powers of a forest
- (f) Damage to soil fertility and onset of soil erosion
- (g) Adverse effect on wildlife
- (h) Aesthetic loss

The forests have degraded and disappeared mainly due to the rapid increase in the population of the state, as the demand of fresh *jhum* areas for cultivation as well as to obtain various goods and services from forests. With the increase of population the cycling of *jhum* are become more shortening and the forests are not able to recover properly these. Further opined that the hill Tribal culture and their ethos (traditional forestry practices) are as well responsible for the degradation to the environment as follows:

Jhuming and Flora and Fauna

Any disturbances of any one factor has its influence on the other like affect on flora and ultimately affect the fauna they depends entire environmental conditions of that area. *Jhuming* influence both the vegetation and the flora. It's the fact that the vegetation of a region is the overall composition of dominant

⁶² Negi, S. S., *A Hand Book Social Forestry*, International Book Distributors, Dehra Dun, 1986, p. 16.

species and the flora is an enumeration of all plants occurring in an area, usually without a commentary on dominance of individual species.

Some scholars opined that the impact of *jhum* cultivation and the process of cutting trees and burning the site, many parasites and epiphytes gets displaced or eliminated from the their inhabitant flora (the unique species of like orchids, epiphytic ferns and various species of shrubs).⁶³ Also *jhuming* has led to habitat destruction and thus has threat to the survival of the wildlife. This system of cultivation brought harmful impact to the wildlife in various forms. Directly or indirectly, the *jhum* cultivation brought an affects, like, the loss of habitat continuity affects the wild animals, loss of top canopy occurs due to *jhuming*, and this affects the behavior of the langurs and gibbons this led to reduction of the territorial area of species. On the point that *jhum* site cannot be reclaimed, and restored, in relation to wild life in short period of time. And, to restore the environment requires a year or more when virgin forest areas with natural habitats are being destroyed. The Javan Rhinoceros and Wild Ox of Myanmar known as '*Santhou*', the Hoolock Gibbon, Stump Tailed Macaque, Slow Loris, Clouded Leopard, Golden Cat, Marbled Cat, Binturong, Spotted Linsang, Malayan Sun Bear, Smoth Indian Otter, Hog Badger, Malayan Giant squirrel, Serow (Sabeng, in Manipuri) etc. were displaced or vanished from Manipur.⁶⁴

Hydrological Processes and the Jhum

The impacts of *jhum* cultivation, also a say on forests and water too. The practice of *jhum* cultivation includes cutting of jungle, burning, clearing and dibbling of seeds in *jhum* accounts for a considerable amount of loose soil material, ashes, earthworm casting and detached soil clods/stones to roll down

⁶³ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, p. 176.

⁶⁴ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, pp. 176-177.

the foothills.⁶⁵ “After the tree cover is removed many components of the ground find the habitats no more suitable for their survival or reproduction”.⁶⁶

The environmentalist opined that the influence of clearing and burning of forests, growing of agricultural crops brought destruction to nature and brought a very harmful (due to shorter *jhum* cycles, shrinkage of forest area etc.) affect to the forest. The naturally growing blue green algae and green algae, which are spread on the soil and enhance soil fertility through the fixation of atmospheric nitrogen and enrich the organic matter, were the result of *jhum* cultivation. It also urges *jhum* cultivation brings a major cause of forest loss in the hilly areas where shifting cultivation are found practiced. The tradition of putting fire in the jungle by the *jhum* fire resulted to the reversal in the pattern of precipitation. *Jhuming* upsets the ecological balance, which brings on imbalance in the hydrological cycle and disturbs the habitat.⁶⁷ In this issue, Md., Bahar-Udin-Shah (2005) writes, “moreover, soil erosion and landslides on the deforested hill slopes leads to siltation and sedimentation on the river beds causing shallowness in river depth. Sediments brought down by rivers has led to the sedimentation of the floor of rivers and Loktak Lake. Due to decrease in the depth of Loktak Lake the life style of the people living in and around the Lake has been changing. If steps are not taken to save the Loktak Lake by stopping degradation of forests on the hill slopes, a very severe predictable condition will prevail with the drying up of Loktak Lake (which is also a source of hydro-electric power in North East India)”.⁶⁸ Further, floods and droughts are the outcome of the loss of forest and informs that forests with the help of their roots, stores the available water from rain and feeds many big rivers throughout the year and furnishes a balanced between a biotic and abiotic

⁶⁵ Water runs over or passes through this ash, the soluble components are flushed out and lost from the site in the run off.

⁶⁶ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, p. 176.

⁶⁷ Affects the survival of the wildlife and other animals on the planet.

⁶⁸ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, p. 177.

component of the ecosystem.⁶⁹

The increased dryness of land for prolonged period changes of landuse associated with *jhum* cultivation and regularity and magnitude of rainfall in local and regional level has caused changes in the hydrological processes. Md. Bahar Shah further states, “In some spots certain trees and shrubs are scarce and may become further rare or even eliminated from the flora of the region, e.g. *Phoebe hainesiana*, Alder, *Pinus Kerya* and *Parkia Javanica* etc. are becoming scarce”.⁷⁰ To the current environmental discourse and the colonial opinion of *jhum* cultivation, is very harmful to environment (capitalist industrial revolution) and so the *jhum* cultivators are responsible eco-degrade or to anti-environmentalist. However, this term cannot be just merely against as the *jhum* cultivator or called as, ‘anti-environmentalist’, ‘rude system’, ‘very wasteful method of cultivation’,⁷¹ ‘reckless destruction’ (from the economic imperative) because they recognized the harmful side of this cultivation since its invention. This age-old method of cultivation as they knew is a necessary evil and found solution as follows.

Ecology and *Jhum*/Shifting Cultivation

The Shifting Method

Jhum cultivation permits the natural forest to regain its full growth after a certain period and come to the answer of shifting the place instead of permanently destructing the natural forest, as done in wet-rice cultivation is the answer to concluded the debated of the century by the *jhumias* or the *jhum* cultivator. They maintain the soil fertility under the conditions by keeping of years to regain the fertility. The cropping period varies from place to place and

⁶⁹ Forested area where no *jhum* or any other economic activity is done, falling raindrops are intercepted by the forest canopy and major portion of the rainfall reaches the ground surface.

⁷⁰ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, pp. 176-176.

⁷¹ Parry, *Lakhers*, p. 75.

it ranges between 2 to 3 years or more (ten) years and the field is abandoned.⁷² This was the way of 'regenerating their forests and the environment.' However, in exceptional case⁷³ the same field continues to cultivate without year of gape of abandoning, if the field holds fertile. Hodson noted:

The *jhum* field is keep to their village sites with tenacity, but change the area of their cultivation year by year in set rotation.⁷⁴

In this way, the *jhum* cultivator realized (from its invention of this method of cultivation), continuation of cultivation in a same place for many year brings eco-destruction and soil degradation and found the way out to shift the field every year or kept abandoning the cultivated field in order to regain the forest. It is a result of cyclic land use, the practice of cutting of trees and burning of forest areas for growing crops.

Jhum Burning Method and Ecology

The Colonial and the environmentalist claimed of *jhum* cultivation as 'primitive mode of agriculture', a 'rude system', and a 'very wasteful method of cultivation', 'split' and 'reckless destruction' to *jhum*⁷⁵ is however this claims is not convincing. For, 'every care' is taken, to ensure the fire does not spread into adjoining forests when the dried vegetations were to be fire, in order to prevent the spread of fire in the nearby surrounding standing virgin forests (in many cases uncontrolled fire spreads beyond the *jhum* area does a great damage to the surrounding valuable forests and great damage occurred to the forest burning

⁷² T.C. Hodson, *Naga Tribe of Manipur*, p. 52.

⁷³ In the context of Kabuis and Marrings tribes of Manipur.

⁷⁴ In many villages, abandoned fields, patches of *jhum* cultivation exist which are semi-permanent, as they are cropped one year and left fallow for two years, which is not really long enough for any heavy jungle to grow. See also T.C., Hodson, *The Naga Tribes of Manipur*, p. 51.

⁷⁵ J. Shakespear, 'The Kuki-Lushai Clans,' *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, vol. 39 (Jul. - Dec, 1909), pp. 31-33.

the dry jungle and premature burning of the newly-felled jungle) at the time of burning the *jhum* fields. W. McCulloch and Hodson noted in this connection:⁷⁶

A premature fire caused by a hillman is visited upon him with severe punishment, and before a village sets fire to the jungle cut down on the spot about to be cultivated, it gives some days' notice to the neighbouring villages of the day on which it means to do so.

After having been cut the tree and the jungle were dried, followed by fire the field in season with care and precaution. One can see *jhuming* is an evil practice of hill culture to deteriorate the environment at first glance, for, it removes the protective forest covers. However, the destructive picture seen by general people is not at all, exactly furnished by *jhumias*, it would soon lead us to an otherwise 'strong sense of environmentalism as one enters into the actual practices in the hills'. It further states by Mahapatra, on claimed of the malign of soil erosion in the mountainous region and flooding down the hills are of *jhum*. However based on the recent research in the more fragile high mountain regions of North India he stated: "There is no evidence of a direct effective linkage between over-exploitation of resources in the mountains and flooding in the foreland. Neither can forests prevent floods after torrential rains. Considering the overall system, erosion caused by anthropogenic factors exerts only an insignificant influence on the processes like flood danger and sedimentation in the foreland, when compared to erosion caused by natural forces and changes in annual run-off are the result of climatic processes"⁷⁷ The practices of *jhum* cultivation by the hill tribal people had on no account destroy the forest resources, but on the contrary, they conserve the forest resources.⁷⁸

⁷⁶ W. McCulloch, *An Account of the Valley of Manipoor and the Hill Tribes*, p. 45. See also T.C. Hodson, *The Naga Tribes of Manipur*, p. 52.

⁷⁷ P.M., Mohapatra, P.C., *Forest Management in Tribal areas Forest policy and Peoples Participation*, Ashok Kumar Mittal, New Delhi, 1997, p. 31.

⁷⁸ Mohapatra, P.M., Mohapatra, P.C., *Forest Management in Tribal areas Forest policy and Peoples Participation*, Ashok Kumar Mittal, New Delhi, 1997, p. 29.

Jhum: Signs and Symbols

The ecological wisdom of hill tribal (*jhumias*) can be determined from the signs or symbol for the occurrence of natural calamity before it actual happen. When the bamboo leaves becoming yellow and start flowering, learn that famine and troubles is nigh. So they took precaution to preserves their foods so also use judiciously to overcome all those troubles (for, no one can stopped the natural calamities).⁷⁹

Flowering of bamboo accompanied by immense quantities of rats in the *jhum* field by nipping down the standing corn and leave and nothing left fit for human subsistence. Hodson described:

They knew the anything at the cultivating season would occur to interrupt his labours. Neither fire nor water stops the progress of the innumerable host. After a time these rats, they say, become birds, to eat of which produces a pestilence. That this transformation takes place they hold to be proved by the birds having tails like rats. The visitations of rats are fortunately infrequent; during the last thirty years none have occurred, but the signs of their advent are, they say, apparent, and that it will take place next year (1869) is generally expected.⁸⁰

The important of forest is fully conscious by the hill tribal even if *jhum* cultivation (damages were done as a necessary evil). The notion of the colonial British and the environmentalist of anti-environmental or reckless destroyer of forest are not at all concluded, why? because enough of evident can be conclude that as Mills noted⁸¹ (Lhotas Naga) tribe:⁸²

- i) ‘big trees were merely lopped, and in some villages rich men leave a few branches uncut at the top’

⁷⁹ It's say that bamboo flower after 50 year of gap.

⁸⁰ T.C. Hodson, *The Naga Tribes of Manipur*, p. 54.

⁸¹ J.P. Mills, *The Rengma Nagas*, Directorate of Art and Culture, Govt. of Nagaland, 1982 [1937], p. 46.

⁸² This was also with the Kukis and Nagas of Manipur.

ii) thinning the branches or trimmed the big trees within or around the *jhum* field instead of cutting down the tree to prevent from the shade to the crop and

iii) tree were left to re-grow as it is when the field were left without cultivation for two or three years.

Figure: 7



Jhum: Trimming of Tree Branches

Here, the figure No.5 pictured the uncut tree will recuperate faster than the other plants also it will definitely produces the fruits earlier and chances of spreading the seed nearby is picture by them. Thus, it lauded, the notion of shifting cultivation an anti-environmentalist or rudely/recklessly against towards the nature is not all adequate to proof. The trimming of branches of tree

from the middle of the *jhum* field is not for sheer reason,⁸³ but more importantly to the overwhelming idea of letting the forest regain and saved the ecology because this tree will growth sooner than they are cut down entirely.

The colonial notion of anti-environmentalist to the *jhumias* or the shifting cultivator and term the ‘reckless destruction’ which are also further opined by the environmentalists, in fact not at all concluded, for they lacked to study the deep inside of the culture of the tribal. Why? Because the tribal knew anything destruction of nature, either plants or animals is equal to sins instructed by their ancestors and believed the forest has its own sylvan deity that controls them in all manner. “Destruction of forestland unnecessarily and in excess of what a person needed was something one must avoid at all cost”. Thus, with this believed they depend on nature since of all the hundreds and thousands years. It was not at all wasteful, for, they got of what they want and given the time the land regain its forest cover. In these ways, the hill tribal were anxious or very sensible to protect and preserve the natural forest in one way or the other despite the practice of *jhuming*.

Conclusion

Jhum cultivation an obsolete method of cultivation system exists since from the very beginning of agricultural history of human kind it may be the matter that (besides their socio-religious, religion, festivals etc.), Lewin rightly stated of *jhumias* life are more healthier (than the plain dwellers).⁸⁴ For this reason, there is no reason that the hill people should be so concern about their health and the question of thinking of environment is absent.⁸⁵ The increase of population in the hill where *jhuming* is the only main agricultural sources, certainly demand more land for extension of *jhum* site. The *jhum* cycle comes down to 3 or 4

⁸³ The reason is not of laziness to cut them or the inefficiency of its implements.

⁸⁴ 'Pleasurable toils' (the annual shifting of settlement from village to *jhum* land and from one *jhum* land to another *jhum* land the following year).

⁸⁵ Lewin, T.H., *Wild Races of South-Eastern India*, Aizawl, 1978 [1870], pp. 14-15.

years from 9 to 10 years to return in the recent past. As the land allotted to each family for '*jhuming*' has also been reduced gradually. However to overcome this (reduced of the cycle period) is to discourage them substitute or to improve from this old system will definitely a gone debate too. Besides, of timber, fuel-wood, fodder, food, medicinal plants and raw materials for various industries, the air we breathe, ground water, agriculture crops and soil health. The tribal still hold on to continue the aged old form agriculture (i.e. *jhum* cultivation). Md., Bahar-Udin-Shah states, the eco-degradation by the evil practices of *jhuming* and express why this *jhum* cannot be stop? Because the scientists suggested many alternate measures for *jhuming* but their pleas have failed perhaps due to adverse physico-socio-cultural environment in which the tribal are compelled to practice *jhuming*, the mountainous topography, undulating slopes, wet weather conditions and the tribal population for whom *jhuming* is a way of life.⁸⁶ Therefore, it may not easily be given up, modifications perhaps more applicable than alternatives by giving to modifications of *jhum* with suitable modified. Ecologically, the practice of *jhum* has had certain experts convinced that it has harmful effect on the local environment, on the others hand, some often thwarted those arguments and concludes, *jhum* a sustainable form of agricultural production best suited for the specific ecology of the hill regions like Northeast India.

The arguments against *jhum* (from state forestry departments, Development of North East Region, World Bank etc.) based on, this modes of unsustainable practice that depletes the soil of nutrients, reducing the forest cover, causing landslides, etc. and many scientists (Indian Institute of Science, Tata Energy Research Institute and UNESCO) who found favoured of this cultivation. Therefore, it's found that *jhum* cultivation has various positive trends at play, and need to continue considering the importance of *jhum* to rural populations particularly in Northeast India, food sustenance through an egalitarian cooperative mode of agricultural production. At the different levels that they

⁸⁶ Shah, B.U. Md., *Manipur: Jhum and Eco-Degradation*, pp. 177-178.

would not like to suppress shifting cultivation, but rather work on ways in which it can be integrated with ecological and conservation concerns. As a result, it can be concluded, a mere condemnation of *jhum* cultivation would not serve well, because it is the age-old and time-tested practices by the hill tribal, also learnt to sustain based on ‘preserving and conserving’ of their forestland of million year or more.