

# Society, Ecology and Livelihood: A Critical Study on Jhum Cultivation in Tengnoupal District of Manipur

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## **Abstract**

Rice is a major consumption of the people in Manipur and the whole North-East India. However, the production of rice was and is never enough for the people of this region, which requires the hill people to cultivate for their own livelihood. The jhum or the shifting cultivation is an ancestral method, which requires the clearing of dense forest for growing the crops. In the olden days with minimal populations and minimal clearance of the forest, the effects were visible minimal. However, after the century and with the coming of the modern scientific era, the negative aspect of jhum is visible seriously affecting the socio-ecology of the humanity in the greater ways, leading to several natural disasters at present. This is mainly due to the plantation of the unwanted seeds and plants, which directly affects the ecosystem and the environment, turning the forest into grassland, soil degradation, carbon erosion, soil erosion, landslide, flood etc. Thus, the modern socio-ecologist sought for the shifting of jhum to an alternative livelihood, not to do away with the lifeline of the hill people, but to create an alternative platform with the modern technology.

**Keywords:** Jhum Cultivation, Ecology, Environment, Livelihood, Agriculture

## **Method**

Semi structured oral interviews from experienced rural villagers, to gather information on Jhum/Shifting Cultivation and its importance. The semi-structured interview was conducted on 120 village elders in the Tengnoupal districts of Manipur.

## **Introduction**

Jhum cultivation in the hill districts of Manipur stands as a lifeline throughout the centuries, in which for the Kuki and Naga society as a whole, the jhum cultivation is socio-culturally inbuilt practices since eternity, not only an economical lifeline. Talking something against about the jhum cultivation is like criticizing our ancestor custom and cultural practices, which is full of discipline and manners. However, with the coming of the modern era the new perspective on jhum cultivation became visible, which is socio-eco environment friendly and harmless to humanity. The shifting in jhum came into being with an idea of shifting of the method of cultivation, in regards to preserve the socio-climate changes. Though being the main domain of food production in the hill area of Tengnoupal district doing away without proper action plan will end up in maximizing the under poverty line people in the country. Thus, it becomes an interesting topic to highlight in the light of government and the public on what than shall we

do to protect our eco-system without affecting the lifeline of the hill people. Thus, considering the urgent needs and challenges that the hill people of Tengenoupal district encounter against save ecosystem versus uplift the economic lifeline of the people, the current study has been form in the light of the sociologists and ecologists aspect.

### Understanding the Jhum Cultivation

Jhum or shifting is a primitive practice of cultivation, which involves clearing vegetative or forest cover on land/slope of hills, drying and burning it before the seasonal monsoon and shoeing the seed thereafter.<sup>1</sup> Shifting or jhum cultivation is usually practice in the hill areas due to the natural topography or geographical locations the settled cultivation could not be practices, unlike the plain areas. The farmer's plant paddy based on the shifting cultivation method by slashing the jungles and burned off for showing the seeds, which usually last for one or two years depends on the soil fertility. The shifting of the jhum cultivation from one forest to another resulted in turning down the cut off forest into grassland.<sup>2</sup> Jhum cultivation, which also known as shifting cultivation in the Tengenoupal district of Manipur is an ancestral method of agricultural practices, which is still prevalence in the region with no immediate proper alternative to replace its economic livelihood of the people. India as a whole in 1984, has around 6.7 million hectares of land were with jhum cultivation, out of which more than 70,000 families in Manipur had practices jhum cultivation. Manipur has occupied 90,000 hectares of land for jhum cultivation, and becoming the highest land occupied for jhum cultivation in the country.<sup>3</sup> However, one cannot simply claims as the misused of land, though the continuance of jhum in the state is closely link to issues like ecological, socio-environmental crisis. In the Tengenoupal hill district, it is the chief who owns the lands, and the chief and the village elders' divides the jhum land among families for their subsistence based on their family populations.<sup>4</sup> However, since the year 2015/2016 the practice of jhum cultivation has been visible considerably minimized in the hill areas, main due to the maximum costs of labor price and the among of time and energy inputs, comparing to other food cultivations in the region. On the other hand, the minimal availability of the land for shifting cultivation also the one reason for the decreasing of shifting cultivation in the region.

Pu. Hemkhai Vaiphei<sup>5</sup>: Unlike the olden days, the younger generations in my village shifted from rice cultivation to chilly, parkia (Yongchak), lemon, banana, and other fruits to sustain their socio-economic livelihood. Thus, the trees in the forest had been growing into its maximum sizes, as the farming of those fruits and vegetable items does not require shifting from one place to another. However, they need to carry the rice bag on their soldier's on the way back to the village from the Moreh town, which requires more physical works or maximum energy inputs than that of the riche cultivation in jhum. In one way or

<sup>1</sup> Sudhir Tewari, "Jhum Shifting Cultivation", [Arthapedia.in](http://Arthapedia.in) (Accessed date: 12/11/2018).

<sup>2</sup> Janny Kapngailian, "Dynamics of shifting cultivation in Churachandpur district of Manipur", Thesis submitted to Acharya N.G. Ranga Agricultural University. In partial fulfillment of the requirements for the award of the degree of Master of Science in Agriculture (Agricultural Economics), July 2010.

<sup>3</sup> L. Rinjah, "Land Use Pattern – Jhumming and Control, Settled and Terraced Cultivation with Related Problems", in T. Mathew (Ed.). North Eastern Hills Regions of India – Problems and Prospects of Development. Agricole Publishing Academy, New Delhi, 1981.

<sup>4</sup> L. Chinzakham Ngaihte, "Tribal Agrarian System of Manipur", Anmol Publication, New Delhi. 1998.

<sup>5</sup> Interview with Pu. Hemkhai Vaiphei. Chief of S.M Lhangjol, Tengenoupal Dostriect, Manipur. (Date of Interview: 12/11/2018).

the other, people in the village's will still suffer, as the government neither took initial action plan to uplifts the socio-economic status of the people, with no proper awareness programme on the alternative to jhum cultivation in the hill stations. The seminar 'I' has attained thus far seems impossible when it comes to application for the villagers, it all goes theoretical. It is clearly visible that, the government has done minimal for the socio-economic development of the hill people. To abolish the jhum cultivation in the hill stations, the government should improve the economics of the hill people, with proper alternative action plan, which could be applicable indeed.

Pu. Hemkhai Vaiphei and Pi. Lhingkim Vaiphei<sup>6</sup> claims, for several natural calamities/disasters the sociologists and the ecologists cannot blindly blamed the jhum cultivation, it rather mainly due to the poor maintenance of the state government on the environmental and ecosystem as whole. The low wages of the farming products in the market also revives the hill people of Tengenoupal district to go on with unwanted seeds plantations for economic hikes like Poopy and Ganza, which could help them to uplift their family incomes. There is no way to do away with the jhum unless the government directs interventions with some beneficial projects for the hill people. On the other hand, the practices of shifting jhum to other modern/scientific farming's could only be succeed, only when the government take initiative action plan to raise up the praises of the village farming products, where they the hill people can sustains their economic status as per the family needs require.

### **The Jhum Cultivations and its Effects: An Analysis**

It is not only the jhum cultivation that only destroyed the forest, as in the year 2013 only 10 of the forest were under the jhum cultivations in the hill stations. It is mostly the shifting of jhum to charcoal production, which is in high demand throughout the year, in hills and the plain. The coming of charcoal fuel reduces down the jhum cultivation into 76% in 2013, while it gradually maximizes the clearing of forest for charcoal productions, which really uplift the economic growths of the hill people. Due to the high price/cost of LPG, inaccessibility due to poor transportations and the absence of electricity in the hill districts and the irregularity of electricity, the charcoal productions is in high demands in the state of Manipur, in which the hill people of Tengenoupal district contributed the most. Thus, deforestation still remain the greatest challenges of the hour's that delivers to climate change, as it not only by jhum cultivation, but also due to charcoal and firewood productions in the state, due to the irregularity of the LPG and electricity. Therefore, the outlook of the hill people has dramatically changes, as the production of firewood and charcoal enhances their economic well-being, rather than the jhum cultivation.<sup>7</sup> Moreover, Teresa Suantak<sup>8</sup> stated that, the jhum cultivation, charcoal and firewood productions were equally responsible for the causes of numerous natural calamities like flood, soil erosion, carbon erosion, biodiversity, and landslide. As Manipur being a land of strikes and bandh, it always resulted into the shortage of LPG and food supply from the main land India. It left the hill and plain people in helpless conditions, in which the uses of firewood and charcoal become the primary concerns to sustain their livelihood. Moreover, the irregularity of food supply causes through bandh and strikes, the hill people on the other hand were force to practice the jhum cultivation for their lifeline. As the Freelance writer

<sup>6</sup> Pu. Hemkhai, Pi. Lhingkim Vaiphei, Chief of S.M Lhangjol Villahe, who were born in Jhum traditions in the early 90s.

<sup>7</sup> "Manipur Hills Moving Away From Jhum", Newmai Network, Imphal, 27 May 2016.

<sup>8</sup> Interview with Teresa Suantak. Freelance Writer Based in Calcutta. Residence From Moreh, Tengenoupal district, Manipur. (Date of Interview: 12/12/2018).

Teresa Suantak stated, looking at the present cultivations in the hill areas of Tengnoupal district alongside the primary crop, which is paddy, the hill people cultivate, king chilly and other seasonal fruits, which does not require the shifting of the cultivating land. However, the greatest challenges lie in the minimal market price of the jhum products and no proper market for the products too. Whether shifting the crops in the jhum or vice-versa, the hill people of Tengnoupal remain helpless unless the government took up some immediate action plan for the socio-economic development of the people. Thus far, the department of forestry and environment has not done any essential initiative awareness programme, as per the Tengnoupal district is concerned.

However, as per the Manipur government New Land Use Policy (NLUP), which was form with an objective of inclusive development through effective land resource development and livelihood of the people, stated that, the shifting or jhum cultivation and unregulated land use system has caused much destruction to both forests and productive of the land. The NLUP pointed out jhum cultivation as the major force for environmental degradation in the hill districts of Manipur, as it doesn't progress beyond subsistence living and fast depletion in its productivity. The hill farmers shifted in planting undesirable but fast economic growing plants like Mariah Rose Pereira (poppy) and cannabis (ganja) by burning the forest that resulted in the loss of huge forest. Thus, the jhum cultivation of such undesirable plants not only resulted in loss of forest, but soil erosion, loss of living species, reduces water holding capacity of soils, and drying up of springs, which in turn gradually deliver climate changes. The changes in climates silt load of water bodies and decrease fish productivity. Though it served the people in the past as the best way of livelihood, today it turns out to be the evil one that outlived the species and climate.<sup>9</sup> On the other hand, climate change may leads to eco-system along with the biodiversity of the particular region in numerous ways. Thus, it masquerades major challenges to sustainability of social and economic development through adversely affecting the distribution system of the regional natural resources, resulting in affecting the livelihood of the people and the environment in many cages. In the coming years, due to the emissions of Greenhouse Gas the increases of climate change effects like gradual temporal and spatial shifts in natural resources as well as drought, flood, severe weather events sea level rise etc. are likely to causes food shortage, increase in vector-bone diseases, infrastructure damage, and degradation of the natural resources. At present, changing climate is a rapid growing challenge for the dependent people, which really affected the hill people at large. Integrated solutions, which can address the emerging needs to livelihood and for the sustainability of the environment is the requirement of the hours.<sup>10</sup>

Meanwhile, as Teresa Suantak Stated, taking up the measurement of climate variability and change can gradually reduce several unfavorable outcomes, which in turn will uplift the livelihood stability in the hill stations of the Tengnoupal district. On the other hand, no proper step will lead the whole economy of the hill people in Tengnoupal district will widely affected as they has the least adaptive capacity.<sup>11</sup> The primary focus of the government and other private sectors emphasis at present were more onto the

<sup>9</sup> Planning department, Government of Manipur. New Land use Policy/Project of Manipur, 2014. IndiaEnvironmentPortal.org.in (Accessed date: 10/12/2018).

<sup>10</sup> Government of Manipur, Directorate of Environment. Manipur State Action Plan On Climate Change, 2013. IndiaEnvironmentPortal.org.in (Accessed date: 12/12/2018).

<sup>11</sup> Interview with Teresa Suantak. A Freelance Writer Based in Calcutta. Residence: Moreh, Tengnoupal district, Manipur. (Date of Interview: 12/12/2018).

sensitivity of the climate change towards ecosystem, agriculture, forestry, tourism, animal husbandry, fisheries etc. mainly due to their relatedness to the economy and livelihood of the people. The National Action Plan on Climate-2008, recognizing the importance of the climate sensitivity forms its principle objective to protect the poor and the vulnerable sections of the society through inclusive and proper sustainable development strategy and sensitive to climate change.<sup>12</sup> Looking at the jhum cultivation at general is mainly responsible for the current climate change as it contributed to all the factors like loss of forests, soil erosion, loss of living species, reduced water holding capacity of soils, drying up of springs that normally lead to climate changes. It is high time for the government to come up with appropriate action plan to replace jhum cultivation by providing lifeline for the hill people in the Tengnoupal District.<sup>13</sup> On the other hand, the challenges not only lie in jhum cultivation, as Teresa Suantak said, even those traditional also faces huge problem of land degradation, soil erosion, and landslide mainly due to densely populated that gives rise to land pressure to causes such calamities. Some action plan that will uplift the socio-economic conditions of the hill people like mushroom farm or like rotations of crops in the particular field without shifting will effectively reduce the demographic pressure on jhum occupied land and forests.

At present situation, the degradation of land and forest due to the jhum or shifting cultivation becomes the serious threats to the people of Tengnoupal district of Manipur. The invasion of the unwanted ill weed showing and cultivation largely effects on soil, water resource, land or forest productivity, and biodiversity. Over the last decade, the crop productivity has been consecutively decline to 50% even after using the fertilizers and pesticides. The energy inputs are more than that of the outcomes crops. The amount of rice yield also do reduces consecutively from 1900-2016.<sup>14</sup>

### **What then shall We Do?**

At present, the state government need to organized serious awareness programme on climate changes and its effect with the civil society from different sectors and need to be strengthen at any level. Creating awareness among the hill people in Tengnoupal district, especially among the jhum cultivators concerning of unwanted plantations leading to climate changes. The hill people of tengnoupal district being aware of the climate change and its negative effects and its costs, through participating in national network, legislator policy, and socio-economic development will open a new door for the hill people to undergo an alternative empowerment in their livelihood. Several critical and analytical researches input on what would be the alternative for shifting the jhum cultivation into new livelihood practices, which would be practically applicable in the hill district of Tengnoupal, and at the same time would uplift the socio-economic conditions of the hill people. With several researches findings the effective awareness campaign on the side effects of unwanted seeds cultivations in the hill areas could able to address the issues effectively. However, unlike the ongoing awareness programme in the hill districts, the monitoring of the awareness plan could be follow-up, should be observes whether it being put into practices directly govern by the community or the district level appointed authorities.

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<sup>12</sup> Government of Manipur, Directorate of Environment. Manipur State Action Plan On Climate Change, 2013.

<sup>13</sup> Planning Department, Government of Manipur. New Land use Policy/Project of Manipur, 2014.

<sup>14</sup> S. Mentel et al., "Improving the Jhum in Bangladesh", LEISA, 22, 20-21.



Looking at the current ongoing awareness programs done by several organizations in the Tengnoupal district, it is mere theoretical with the absence of providing modern scientific tools and instruments for the implementation of the alternative to jhum. Thus far, the failures of the government lie in not setting-up proper vocational institute to train the hill farmers to be well equipped with the modern cultivation methods and its advance technological instruments. Tengnoupal as a district headquarter at present has no organic farming related institute or training center's for the farmers, no biodiversity board, no wet land authority, and with no state or central funded quality education centers. The challenging for the people of Tengnoupal district is visible with the absence of special regional agricultural development modeling and assessment mission resources centre and technical secretariat. For successful shifting of jhum cultivation into another alternative methods of livelihood for the hill people, the region need proper functioning information centre with regards to the climate changes, its impacts or implications that could be easily and readily available for the farmers and the hill people as a whole. As per the CCSAPM 2013,<sup>15</sup> for the effective implementation of the alternative to jhum in the hill areas the top-down (from climate projections) and the bottoms-up (from collecting the empirical data/information) approaches were requires for people of all categories on the effects of climate change in regards to water resources, agriculture, forest, and natural disasters in the state. The state government and other leading non-governmental organizations need to set up local specific databases, followed by scenarios, and assessment with proper monitoring networks for the development of the practicable alternative plan. As per Teresa Suantak and Hemkhai Vaiphei stated, indeed the hill people in the Tengnoupal district do acknowledge and recognize the effects of jhum cultivation in climate change in one way or the other, however, there has not an estimation or data or information to what extend the jhum cultivation contributed to the overall emissions or in climate changes. The availability such amounts of estimation or information on the effects of jhum cultivation in climate change or natural calamities could easily educated the hill people of Tengnoupal district and the emerging needs of the people in order to consider the alternative livelihood.<sup>16</sup> Moreover, there is a need of the partnership between the state planning committee and the local authorities, to set up an institute in a partnership for the training and awareness programme for the hill people of the area. In such partnership the climate change through numerous activities contributed by the jhum cultivators and the other agencies could highlighted, which could be discuss in an annually planning into their own perspective planning.

It is necessary for the community initiative, local disaster management team, rather than a single team for the whole the state in the capital, to integrate climate concern from each locality. It is also necessary to establish a national level program or a mission to standardize climate impacts assessment both in academic and in more applied ways for result based management and programming, with locality specific adaptation plans, and community based adaption programs.<sup>17</sup> There should also be some innovative program for the people Tengnoupal district that should be technologically feasible, sociologically acceptable, and ecologically sound with economically viable, without which the sustainable use of resources is unlike to occurred. The involvement of the local people in any decision-making processes is the core criteria, which the government and the planning committee usually

<sup>15</sup> Government of Manipur, Directorate of Environment. Manipur State Action Plan On Climate Change, 2013.

<sup>16</sup> Interview with freelance scholar Teresa Suantak and Pu. Hemkhai Vaiphei at their residence in Moreh. (Date of Interview: 12/12/2018).

<sup>17</sup> Government of Manipur, Directorate of Environment, 2013. IndiaEnvironmentPortal.org.in (Accessed date: 10/12/2018).

neglected. Sustainable land use and management require the direct participation of the hill people who are depending on those resources, rather than those in the Department of Forestry and Environment sitting in the air-condition room and proceed on the decision making for the poor farmers. Moreover, the exploitation of the available technological resources to the advantage of the hill people need to be taken into consideration immediately. Awareness should be raised among policy makers and the public on how to see things from the perspective of people with a different culture than the mainstream.<sup>18</sup> Suantak D Vaiphei<sup>19</sup> stated that, the theoretical awareness programs in the hill district of Tengnoupal as of now would produce no practical implications; it requires the proper sanctions of adaptation funds to the farmers in the region. The hill people of Tengnoupal district also need direct funding participation under market mechanisms such as CDM, REDD+, modern scientific knowledge exchange among scholars and farmers, with the transference of modern technology to the farmers, along with appropriate training on how to utilize the scientific technologies for modern cultivations. The agricultural products market and the environment services for the farmer in state need to be developed to the maximum. The state government and the district authority could jointly create a platform for the farmer to receive monetary award for engaging in the production of quality environmental service and positive ecosystem. It is also important to create and develop scientific agricultural tools and mechanism for the farmers to replace their traditional agricultural instrument that consumes energy that is more physical and work loaded.

### Conclusion

As per the findings and base from the modern technological points of view, jhum cultivation is an old aged method of cultivation that does not require any modern technologies in it when it is freely available. In the absence of the modern technologies, this traditional jhum cultivation resulted in producing low products and minimum yields. Moreover, the cultivation of the unwanted seeds like Mariah Rose Pereira (poppy) and cannabis (ganja) and other related unwanted plantations by burning the forest that resulted in the loss of huge forest, which usually produce soil erosion, carbon emission, minimizing biodiversity and turn the forest into a grassland. As Teresa Suantak and Hemkhai vaiphei stated, mixing of crops in the jhum like rice, maize, cucumber, pumpkin, and other vegetables helps in maintaining the soil degradations, rather than soil erosions. However, the Forest Officer of Moreh, Tengnoupal district stated, mixing of the crop is not the issues. The issues lie in the shifting and clearing of the forest every year without considering the ecosystem and the environment. In which shifting of the clearing of the forest resulted in minimal rainfall, landslide, flood, and the minimal availability of the wild animals, which were visible extinct today in Tengnoupal district. Moreover, the Green Revolution in the mainland India could be accessed to the Tengnoupal district in particular and North East as a whole, due to its hilly region and inaccessibility of the scheme or project as per it is projected. In several talks with the farmers in the Tengnoupal district, there has not been any innovative steps of awareness from the government and other non-government sectors on modern agriculture to replace the primitive form of cultivation, and no suitable programs had not been created yet thus far for the development of the modern/scientific agriculture system.

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<sup>18</sup> Bose S. Development and change in area under shifting cultivation. Shifting cultivation in North East India. Council of Social Science Research, NEHU, 1980. And Anonymous. Economic Survey of Manipur. Directorate of Economics and Statistics, Government of Manipur, India, 1998.

<sup>19</sup> PhD Research Scholar, BN University, Udaipur. A Residence of SM, Lhangjol Village, Tengnoupal District.

It was since the beginning of the 20<sup>th</sup> century that the eradication of the jhum cultivation in North-East India had been initiative by the concerned government, with the introduction of cash crops. However, the cash crop is not accessible in the hill areas. The government initiation on planting rubber, coffee, tea leave succeed to some extent, however, the planting material and financial helps ceased within a years and could not survived any longer. Thus, in Manipur the jhumians remain struggles throughout the century, without any applicable alternative plan thus far. If the government and other public sectors had not seriously considered on the alternative to jhum, the environment and the ecosystem would always remain the challenges of the century, generation after generations. As per the researcher findings, being the Tengenupal areas wet land, the horticulture can successfully replace the jhum cultivation, if proper financial support and plantation material had given to the hill people. Like the tea plantations in Assam, Darjeeling, and Tripura the hill people of Tengenupal district could also be successfully implement, if the state and the central government has proper plantation materials and financial support in their starter period, which could be the best alternative plan as for now in the region.