International Journal of Management, Public Policy and Research
International, Peer Reviewed journal
E-ISSN: 2583-3014

THE HISTORICAL PERSPECTIVES OF SHIFTING CULTIVATION IN NORTH-EASTERN STATES OF INDIA

Dr. Sukanta Sarkar

Associate Professor, Department of Economics, Gambella University, Gambella Region, Ethiopia, Email: sukantaeco@gmail.com, ph: +251905188315

ABSTRACT
The paper discussed the historical perspectives of shifting cultivation in north-eastern states of India. It has been found that north-eastern region of India has long history of shifting cultivation. Shifting cultivation is a primitive method of agricultural cultivation in the region. Ethnic tribal people are more involve in such cultivation. Large portion land in the region are still under such cultivation. Culture, rituals and customs of the tribal people are connected with shifting cultivation. Area under shifting cultivation are declined in the region due to many reasons. Low production of crops, lack of rainfall, and government restrictions are the prominent factors. But large portion of land in Nagaland, Meghalaya, and Arunachal Pradesh, are still under the shifting cultivation. Poor tribal people are more involved in shifting cultivation because of less use of capital, inputs, machines etc. It is a labour-intensive method of cultivation. There are negative ecological implications of shifting cultivation on nature. The Government of many states in the region has already prohibited such cultivation considering its environmental consequences and encouraging them for transforming in agro-forestry.

Keywords: Income, Revenue, Shifting cultivation, and Tribal people.

INTRODUCTION
Shifting cultivation is an old and traditional cultivation method. It is also known as slash and burn cultivation. In north-eastern India such cultivation is more popular as jhum cultivation. The people who are involved in such cultivation are known as Jhumias. It is an integrated rain fed farming system with rotation of land. It is a popular method of cultivation for the tribals in hilly areas. It is a temporary agricultural system, where land is abandoned for a particular period for unplanted flora to grow freely after harvesting of crops. During this time the cultivators move to another patch of land for cultivation. After a particular period, the cultivators again cultivate in the previous lands. This time gap is known as Jhum cycle. Jhumias generally cut and burn the trees for cultivation. After burning the jungles, ashes of the burnt tress are mixed with the soil and the clean land is prepared for future cultivation. It is a subsistence farming method which uses little technology and inputs. Farmers basically use rainwater and indigenous seeds for cultivation. Food grains and vegetables are produced in Jhum field and produced food items are more organic (Swami, 2018).

Shifting cultivation is a traditional practice of cultivation in the tropical regions. It is practiced in the hilly areas where temperature is high and the rainfall is plentiful. It is a common practice in South Asia, South-east Asia, South America, Central Africa and West Africa. More than 250 millions of people are involved in this cultivation. It is also known in various names in different countries (Shangpliang, 2019). Tribal people are generally depending on shifting cultivation in South and South-East Asia. Adivasis or tribal indigenous people of the Eastern Himalayas and Chittagong Hill Tracts of Bangladesh have a long history of shifting cultivation. Shifting cultivation is a primitive source of income and food for the tribes of this area which is dominated by tribal people. Currently, very few of the shifting cultivators follow the long Jhum cycle for cultivation. Jhum cycle is decreasing day-by-day. It reduces the income of the cultivators and also reduces the fertility of soil. Large land areas and low population density are the bases of shifting cultivation, but it is now rare, because of increasing population (Pandey et. al., 2021).

OBJECTIVES OF THE STUDY
The objectives of this paper are (a) to study the historical perspectives of shifting cultivation in north-eastern states of India, and (b) to identify policies of government for rehabilitation of shifting cultivators in alternative livelihoods.

METHODOLOGY

This study is descriptive in its design and has utilized the qualitative approaches. Secondary data were used in this study. The secondary data are collected from various government reports, report of international agencies, research papers, published or unpublished thesis's, articles etc. To reveal the shifting cultivation in north-eastern region of India in general and the historical perspectives in particular, descriptive analysis, content and text analysis were performed.

RESULTS AND DISCUSSION

Shifting cultivation has long history in north-eastern states of India. It is practiced by the ethnic groups in Assam, Nagaland, Manipur, Mizoram, Meghalaya, Arunachal Pradesh and Mizoram. The pattern of shifting or jhum cultivation are nearly same in the region, which involves the cleaning jungles, burning forests, mixing the soil, sowing seeds and harvesting the crop. Nagaland has the highest number of families who depend on shifting cultivation followed by Manipur, Mizoram, Assam, Arunachal Pradesh, Meghalaya, and Tripura. As per govt. reports, about 2.4 percent of the total land area of the north-eastern region is under the shifting cultivation. According to FAO (1975), about 7.40 million hectares of land in north-eastern India has been affected by shifting cultivation. Poor tribal people are involved more in shifting cultivation because of less use of capital, inputs, machines etc. in such cultivation. It is a labour-intensive method of cultivation. So, most of the tribals are involved in shifting cultivation (Mukul and Herbohn, 2016).

Table 1: Name of Shifting Cultivation around the World

Name of Shifting Cultivation/	Location/Country
Humah/ Ladang	Java and Indonesia
Tamrai	Thailand
Chena	Sri Lanka
Taungya	Myanmar
Caingin	Philippines
Chetemini	Uganda, Zambia and Zimbabwe
Roka	Brazil
Konuko	Venezuela
Milya	Mexico and Central America
Echalin	Guadeloupe
Milpa	Yucatan and Guatemala
Comile	Mexico
Logan	Western Africa
Fang	Equatorial African Countries
Masole	Congo (Zaire river Valley)
Tavi	Madagascar
Ray	Vietnam

Source: https://www.studyiq.com/articles/shifting-cultivation/

The above table (1) discussed the name of shifting cultivation around the world. It has been found that name of shifting cultivation varies across the countries. Shifting cultivation still exists in many areas of Arunachal Pradesh, Tripura, Meghalaya, Mizoram, Nagaland, Odisha, Jharkhand etc. Tribals are generally involved in shifting cultivation of these states. As per the ICAR report (2018), total shifting cultivated land in India is 4.37 million hectares and 5.02 million tribal people are dependent on such cultivation. Odisha has the highest land area under the shifting cultivation. It is nearly 1.6 million hectares and two million tribal families are dependent on such cultivation. Shifting cultivation land in Madhya Pradesh, Jharkhand, and Andhra Pradesh are 0.38, 0.19 and 0.15 million hectares respectively. Shifting cultivation land area in north-eastern states viz., Tripura, Meghalaya, Assam, Manipur, Arunachal Pradesh, Mizoram and Nagaland are 0.49, 0.47, 0.31, 0.26, 0.21, 0.19, and 0.12 million hectares respectively. Tribal families' dependent on shifting cultivation use a cultivable land area of 0.19, 0.61, 0.31, 0.36, 0.43, 0.40 and 0.19 million respectively in the mentioned states (Mishra, 2022).

Table 2: Name of Shifting Cultivation around the India

Name of Shifting Cultivation/	Location/State
Jhum	North-eastern India
Vevar and Dahiyaar	Bundelkhand Region (Madhya Pradesh)
Deepa	Bastar District (Madhya Pradesh)
Zara and Erka	Southern States
Batra	South-eastern Rajasthan
Podu	Andhra Pradesh
Kumari	Hilly Region of the Western Ghats of Kerala
Kaman, Vinga and Dhavi.	Odisha

Source: https://www.studyiq.com/articles/shifting-cultivation/

The above table (2) depicted the name of shifting cultivation around the India. It has been found that name of shifting cultivation varies across the states of India. Production and yield from shifting cultivation depends on the length of the jhum cycles. Initially, return from the shifting cultivation was higher because of long jhum cycles. But due to increased population pressure on the demand for food grains and vegetables, Jhum cycle has now been reduced to 2-5 years in many areas. The production and yield of food grains in settled cultivation was increasing but the production and yield from shifting cultivation was declining in recent years. Traditionally, the village communities controlled the forest land and took decision on the rotation of land for shifting cultivation. The community cultivated land to earn their own livelihood and produced food grains and vegetables for their own consumption. It has caused deforestation and ecological problems. There are negative ecological implications of shifting cultivation. The Government of many Indian states has already prohibited shifting cultivation considering its environmental consequences.

Table 3: Changes in the Extent of Shifting Cultivation in India (2000-2010) (Area in km^2)

State	Shifting Cultivation Area (2000)	Shifting Cultivation Area (2010)	Change (km^2)	% Decadal change
Andhra Pradesh	13.80	16.45	+ 2.65	+ 1.92
Arunachal	3088.08	1531.46	- 1556.62	-50.41
Assam	8391.48	239.56	- 8151.92	- 97.15
Bihar	45.45	0.00	- 45.45	- 100.00
Manipur	12014.06	852.20	- 11161.86	- 92.91
Meghalaya	2086.77	448.99	- 1637.78	- 78.48
Mizoram	3761.23	2617.56	- 1143.67	- 30.41
Nagaland	5224.65	2827.74	- 2396.91	- 45.88
Orissa	115.28	1445.44	+ 1330.16	+1153.85
Tripura	400.88	254.11	- 146.77	- 36.61
Total	35142.21	10306.84	- 24835.37	- 70.67

Source: Indian Council of Forestry Research and Education and published under Statistical Year Book-2014 by MoSPI.

The above table (3) discussed the changes in the extent of shifting cultivation in India. It has been found that except Orissa, area under shifting cultivation was declined during the period. Nagaland, Meghalaya, Arunachal Pradesh, and Orissa still have larger portion of land under the shifting cultivation. Shifting cultivation is more common among the tribal people in the hilly areas of Assam. Cachar and Karbi Anglong district are more popular for shifting cultivation in the State. It has a long history of these regions. More than 58000 families are involved in such cultivation. Jhum cultivation is more popular in the hilly areas of Manipur. Pam-Lou is the local name of such cultivation in the state. Churachandpur and Tamenglong are the two districts that mostly practiced shifting cultivation in the state. More than 80 per cent people in Churachandpur district are dependent on shifting cultivation. The area under shifting cultivation is decreasing continuously in Chandel and Ukhrul districts of the state.

Table 4: Areas under Shifting cultivation in north-eastern states of India

States	Area(sq. km)		
	2005-06	2008-09	2015-16
Arunachal	1025.07	821.67	509.11
Assam	160.15	82.02	52.60
Manipur	752.10	296.68	499.96
Meghalaya	291.87	281.73	237.87
Mizoram	1028.53	602.08	691.55
Nagaland	1239.09	1414.53	979.33
Tripura	89.28	30.31	65.17
Sikkim	-	58.98	92.09
Total	4586.09	3588.00	3127.68

Source: Haokp, I., Devi, M., Das, H., Dey, P., Kumar, D., and Tasung, A. (2021). Shifting cultivation in northeast India: sustainability issues and strategies for improvement. Harit Dhara, 4 (2), 4. (https://iiss.icar.gov.in/eMagazine/v4i2/5.pdf)

The above table (4) discussed the areas under shifting cultivation in north-eastern states of India. It has been found that Nagaland, Mizoram, and Arunachal Pradesh have the larger portion of land under the shifting cultivation. Assam, Sikkim, and Tripura have the least portion of land under the shifting cultivation. According to some government reports, significant area of north-eastern states has already been affected by shifting cultivation. Such cultivation requires more physical labour for preparing the land for cultivation and during cultivation villagers use their traditional instruments.

Shifting cultivation is a part of life of the Mizo families. The villagers are usually busy in cutting the jungles and burning it for jhum cultivation. More than 60 percent of the total population in Nagaland is practising jhum cultivation. Mokukchung, Tuensang, Wokha, Mon, Kohima and Zunheboto are the districts popular for shifting cultivation. There is a huge loss to forests in eastern Kohima in the last decade because of the shifting cultivation. Nearly 20 thousand hectares of forests were cut and burned every year in the state for shifting cultivation. In the State, more than 10 lakh hectares of lands are cultivated under such cultivation. More than 100 tribes of the state are engaged in such cultivation.

Shifting cultivation is a common agriculture practice in Meghalaya. It is practised generation-wise by the tribal people. It is extensively cultivated in the East Garo and West Garo Hills, where more than three quarters of the land area was under such cultivation. Many non-jhum areas have been converted to jhum areas in the state. Shifting cultivation has a long history among the tribals in Tripura. The Reang tribals are more involved in such cultivation. Such cultivation is more popular in Dhalai and North-Tripura districts. Such cultivation is an out-of-date agricultural exercise in Arunachal Pradesh. Nishis and Galo tribes are more involved in such cultivation. Shifting cultivation is more popular in East Siang and West Kameng districts of the state.

Hilly tracts or slopes are more suitable for shifting cultivation. Shifting cultivation is known as jhum cultivation in the north-east India. Such cultivation starts in the dry seasons. During this time cultivator cut the trees or bushes and burn them. Shifting cultivators generally used rain water for cultivation During rainy season farmers generally plants trees or throw seeds. Most of the cultivators construct small huts near the cultivated land for observing the work. Both male and female are involved in jhum cultivation. Male are more involved in cutting trees, clearing jungles, burning bushes etc. and females are more involved in planting trees, bowing seeds, removing weeds etc. There is no difference in pattern of shifting cultivation is in these states. It is the core source of income for the tribals who live in interior parts of the hilly terrains. Jhumias earn money by selling vegetables and food grains in local markets. Many tribals are involved in shifting cultivation because of lack of alternative work. Jhum cultivation has both financial and cultural benefits. This cultivation has significance in rituals and festivals of the tribals.

Fire Fighting Authority was established by the Government of Mizoram for monitoring the forest fires. The Government has also introduced Mizoram (Prevention and Control of Fire in the Village Ram) Rules in 1983 to control forest fires. Fire prevention committees have also been formed at the village, district and state levels for monitoring the forest fire incidences. Government of Mizoram has implemented a new policy popularly known as 'New Land Use Policy' in 1984. The objective of this policy is to minimize the reliance of jhumias on jhum cultivation and rehabilitating them in stable cultivation. Under this scheme the government has provided alternative land to jhumias for permanent cultivation, as it would help them for earning more income from the settled cultivation.

United Nations Development Programmes and the Government of Nagaland have been jointly working to reduce shifting cultivation and to reduce the degradation of land resulted from jhum. Nagaland Jhum land Act, 1970 (Nagaland Act No.3 of 1974) was implemented for reducing the evil effects of the jhum cultivation. The Department of Agriculture is providing hybrid seeds, pesticides, fertilizers, irrigation facilities and machines to the jhumias families for expansion of agriculture. The Government of Meghalaya provides all types of assistance to the jhumias to rehabilitate them in alternative sources of livelihood. The State government is thinking to implement the watershed development approach for this purpose.

Shifting cultivation has a long history among the tribals in Tripura. It is not only the source of livelihood of the tribals but also the way of life for them. Such cultivation is a traditional method of cultivation, where land is cultivated temporarily and then it is abandoned for a particular period. Forest burning is a main part of such cultivation. Forest burning increases air pollution. It is also responsible for reducing acidity and organic components of the soil. It causes deforestation and changes the forest ecosystems. It also increases the soil erosion. All tribals in the State are not intensively involved in such cultivation. Some tribes are partially dependent and some are totally dependent on jhum cultivation in the state. It shows the optimum use of land in the hilly terrains of the state. The Reang people are relatively highly involved in such cultivation. Shifting cultivation is more common in Dhalai, South Tripura and North Tripura districts.

Tribal people in Tripura generally do not know the settled cultivation in the interior part of the state. Tribal community were known about the settled cultivation from the Bengali and Manipuri communities. During 1955, nearly 60 per percent of area of the state have been under jhum cultivation. After the partition of the country and later in 1971 when Bangladesh became independent, the situation in the state had changed when Bengali people had migrated. The tribals felt the shortage of land and it has also affected the jhum cycle in the state. As Jhum cycles became smaller, it has created ecological problems. Fertility of the soil has decreased and its output has declined in many regions of the state. Shifting cultivation was not profitable for the Jhumias of the state.

Shifting cultivation is subsistence farming for tribals in Tripura. Output and income from the jhum cultivation is very less for the cultivators. Excessive cultivation of jhum is harmful to the soil and environment. It has reduced biodiversity of forests and rainfall of the region. Loss of biodiversity also affects the environment. It promotes carbon emission and deforestation. Production of food grains/vegetables from settled cultivation is higher than the jhum cultivation in the state. Production of crops per hectare from jhum land is less than the settled cultivation. Because of the rapid population growth, farmers cultivate the same land after the gap of a few years which means shorter jhum cycles which has reduced productivity of the soil and increased soil erosion. After prohibition of shifting cultivation of the state, government is encouraging tribal people for rubber and other agro-forestry activities with the hope that it will help local communities to earn additional income and will increase afforestation in the hilly areas.

CONCLUSION

Shifting cultivation is a traditional practice of cultivation in the tropical regions. It is practiced in the hilly areas where temperature is high and the rainfall is plentiful. It is a subsistence farming method which uses little technology and inputs. Farmers basically use rainwater and indigenous seeds for cultivation. Shifting cultivation has a long history in north-eastern states of India. Tribals are generally involved in shifting cultivation of these states. Shifting cultivation is a primitive source of income and food for the tribes of this area which is dominated by tribal people. Nagaland, Mizoram, and Arunachal Pradesh have the larger portion of land under the shifting cultivation. Assam, Sikkim, and Tripura have the least portion of land under the shifting cultivation. Cachar and Karbi Anglong district are more popular for shifting cultivation in Assam. Churachandpur and Tamenglong are the two districts that mostly practiced shifting cultivation in Manipur. Shifting cultivation is a part of life of the Mizo families. Mokukchung, Tuensang, Wokha, Mon, Kohima and Zunheboto are the districts popular for such cultivation in Nagaland. It is extensively cultivated in the East Garo and West Garo Hills of Meghalaya. Shifting cultivation has a long history among the tribals in Tripura. Such cultivation is more common in Dhalai, South Tripura and North Tripura districts. Such cultivation is more popular in East Siang and West Kameng districts of Arunachal Pradesh.

The Government of Meghalaya provides all types of assistance to the jhumias to rehabilitate them in alternative sources of livelihood. Many shifting cultivators are already rehabilitated in rubber, tea, and bamboo plantations. Animal husbandry, horticulture and agro-based industries are the other rehabilitated areas. The Government of many Indian states has already prohibited shifting cultivation considering its environmental consequences. Fire Fighting Authority was established by the Government of Mizoram for monitoring the forest fires. The Government

has also introduced Mizoram (Prevention and Control of Fire in the Village Ram) Rules in 1983 to control forest fires.

REFERENCES

[1] Haokp, I., Devi, M., Das, H., Dey, P., Kumar, D., and Tasung, A. "Shifting cultivation in northeast India: sustainability issues and strategies for improvement." Harit Dhara, 4. 2 (2021), 4.
[2] Mishra, A. "Shifting cultivation to sustainability – seeing beyond the smoke." Current Science Journal, 122. 10 (2022): 1129.
[3] Mukul, S. & Herbohn, J. "The impacts of shifting cultivation on secondary forests dynamics in tropics: A synthesis of the key finding and spatio temporal distribution of research." Environmental science and policy, 55 (2016): 167-177.
[4] Pandey, D. K., Junot, A. and Adhiguru, P. "The contribution of sense of place to shifting cultivation sustenance: evidence from West Garo Hills, North East India.". Current Science Journal., 118. 8 (2021): 120.
[5] Shangpliang, L. "Agro-forestry: An alternative for Jhum Cultivation in Meghalaya." The NEHU Journal, XVII. 1 (2019): 64.
[6] Swami, S. "Shifting cultivation: A tribal way of life in north east India and alternative approaches for increasing productivity." The Pharma Innovation Journal, 7.3 (2018): 380.