ROLE OF KARBI PEOPLE IN PRACTICING JHUM CULTIVATION IN KARBI ANGLONG DISTRICT, ASSAM

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Abstract

Jhum cultivation is one of the most important indigenous farming systems in Karbi Anglong District of Assam. The present study intends to explore the role of indigenous karbi community in practicing jhum cultivation and the comparative involvement of karbi and non karbi people in different jhum cultivation system in the district. Qualitative and Quantitative methods are used to conduct interviews of karbi people as well as non karbi people inhabited in the district. Observations and focus group discussion with the local people are used to know about their jhum cultivation process. The result has revealed that the karbi people mostly involved in different jhum activities than other non karbi people in different surveyed villages in Karbi Anglong District and the continuation of traditional farming practices guided by the traditional farming calendar and characterized by mixed cropping, inter-cropping and rotation, which usually optimized the use of limited arable lands in the area.

Key words: Indigenous farming system, karbi community, Karbi Anglong District, jhum cultivation

1. Introduction

Jhum cultivation is one of the primitive agricultural system practiced by the karbi people in Karbi Anglong District. Karbi community practiced jhum cultivation with their indigenous

knowledge. According to Karbi Anglong Autonomous Council 54,500 families of Karbi Anglong district involved in jhum in 2011.Indigenous knowledge is a product of adaptation of practice of farming and food culture to the local rural environment (Tella, 2007). The indigenous jhum farming of crop production has emerged as a result of cultural and biological evolution and represents the role of indigenous rural karbi farmers. Indigenous jhum farming is the actual knowledge of the rural agrarian karbi population which reflects the experiences of agriculture and associated practices based on their tradition. The karbi farmers, women, landless laborers and cattle rearers are the custodians of affluent traditional knowledge, indigenous practice and belief system and these passes down by their cultural processes through generations in Karbi Anglong District (Dey et.al 2011). Conservation and management of traditional farming practices are linked to the protection of the cultural diversity and economic practicality of the rural indigenous Karbi populations (Migual, 2008). The indigenous jhum farming is highly diverse land use system practiced by the rural Karbi people. The people of this district generally follow single cropping systems. Double or multiple cropping systems are rarely in practice though rape and mustard, maize, sugarcane, seasame, wheat, jute, arhar, cotton, black gram, peas, and green gram are other agriculture crops cultivated as a mixed crop farming system in the district. The features cultivate the crop and extract mustered oil, sesame oil from these for self-consumption. Major area of production of the agriculture crops in the district falls under rain fed condition about 97% of the total area of paddy cultivation is rain-fed. As the farming practices are characterized by rain-fed farming, and drip irrigation practice has not yet adopted by the farmers, the potential for off-season vegetable cultivation is yet to be explored.

2. Objectives

The main objectives of this paper are:

1. To study of the role of Karbi community in practicing jhum cultivation system in Karbi Anglong District.
2. To assess the comparative involvement of karbi and non karbi people in jhum cultivation system in different surveyed villages in the district.

3. Methods and Database

3.1 Study area

The study has been conducted among the Karbi community people in three villages of Karbi Anglong District. The district lies between $25^0 30' 00''$ and $26^0 37' 00''$North latitudes and $92^0 08' 00''$ and $93^0 50' 00''$ East longitudes. It is bounded on the north by the Morigaon, Nagaon and Golaghat districts, on the east by the Golaghat district, on the south by the state of Nagaland and Dima Hasao district of Assam and on the south-west by the state of Meghalaya (Fig 1). The District being the largest district of Assam occupies total geographical area of 10,434 sq. km, accounting for 13.3% of the total geographical area of the state.

The population of the district is predominantly tribal where in karbis are the tribes with largest population. Due to variation in topography, this hill zone experiences different climates in different parts. The winter commences in October, and continues until February. During summer, the atmosphere becomes humid. The temperature ranges from 6 degrees to 12 degrees in winter, and 23 degrees to 32 degrees Celsius in summer. The average annual rainfall is about 1200 mm. The district is predominantly an agricultural district. Different types of agricultural crops are cultivated, amongst which paddy is the main crop. Except for the valleys, the farmers in the district follow the jhum system of cultivation.

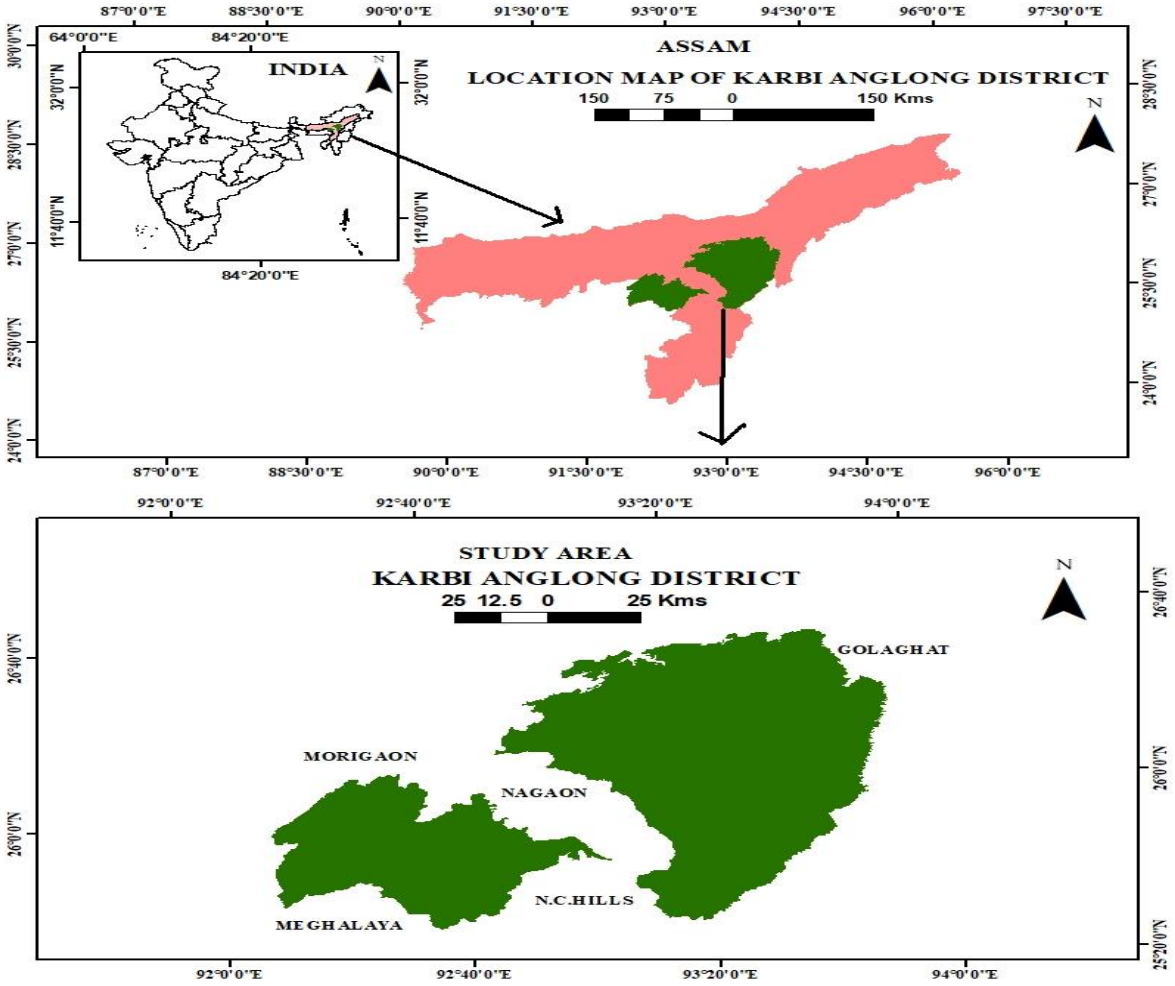


Fig 1: Location of Study Area

3.2 Database used, Methods and techniques

This research is based on both qualitative and quantitative methods emphasizing on anthropogenic approach that includes interviews, participant observations and focus group discussions. The qualitative research design aims to gain an in-depth understanding of the system of jhum cultivation in Karbi Anglong district. A stratified random sampling method is adopted to carry out the study. The core research has been focused on this aspect during the focus group discussion (FGD) with the karbi communities and also with non karbi people. The data from

household survey and the findings from FGD help to build the context in terms of current income level of the households. Three villages have been selected for primary survey, viz. Langsomepi village, Mulokbong village and Riso Rangphar village. Data are collected from 55 jhum farming families using structured questionnaire and field observations conducted as well. In Riso Rangphar village all the Karbi people (100) are engaged in jhum activities. In Langsomepi village about 90 per cent Karbi people are engaged in jhum cultivation and only 10 per cent non karbi people are involved in jhum activities and in Mulokbong village about 93.65 per cent Karbi people are involved in jhum cultivation and only 6.34 percent non karbi tribal people engaged in jhum activities for their livelihood (Table 1). Jhum cultivation is the traditional culture of Karbi people and they are totally involved in jhum practice than other economic activities for their way of living.

Table 1: Location of selected survey villages within Revenue Block

Name of Villages	Area covered as per 2011 census (hectare.)	Latitude	Longitude	Altitude	Total no. of households	Surveyed households	Population of surveyed households		
							Total people	Karbi people	Non-karbi people
1.Langsomepi	150.00	$25^0 55^/ 19.72^{//}$N	$92^0 29^/ 44.11^{//}$E	486m	114	34	200	180	20
2.Mulokbong	70.00	$25^0 54^/ 53.53^{//}$N	$92^0 41^/ 19.48^{//}$E	109m	61	18	126	118	8

3.Riso Rongphar	18.00	$25^0 51^/ 1$ $6.94^{//}$N	$93^0 28^/ 9.88^/$ $^/$E	202m	11	3	25	25	0

Source: Primary Survey, 2016-2019

Note: The surveyed households 55 out of 351 households as the sample size 30 percent of the total representative.

4. Results and Discussions

Jhum cultivation is the major source of livelihood pattern of rural tribal people including Karbi and non Karbi tribal people on high altitude areas of Karbi Anglong District. It is the community farming system and way of life and socio-economic development of the indigenous tribal people (Sati et.al. 2014).The jhum cultivators in Karbi Anglong district use a mixed cultivation method. The farmers rely on biodegradable waste and inputs. So without the aid of modern farm inputs such as chemical fertilizers the farmers have been able to produce food crops on a sustain basis year after year. Land quality is maintained very well through environmentally sound and sustainable farm practices such as bio-waste recycling (Mukharjee, 2012).

3.1 Jhum cultivation in Karbi Anglong District

In Assam jhum cultivation is mainly practiced in Karbi Anglong and North-Cacher Hills. In these two hill districts about 54,000 farming families are involved and cultivating 70,000 hectares area of land annually. Jhum cultivation has been practised by the tribal people of the hill areas. About 70 percent populations of Karbi Anglong district fully depend on this traditional method of cultivation known as "Jhumming". The crops like rice, maize, sesame, cotton, ginger, turmeric, and mixed vegetables are mostly grown in jhum field.

Table 2: Status of Jhum Cultivation in Karbi Anglong District

The area under jhum in the district had increased from 54,000 hectares in the year 1976 to 63,000 hectares in the year 2011 (table 2). Area affected by jhum in the district is 415,000

hectares. While abandoned jhum area in the district is 76,000 hectares. The number of tribal families involved has increased from 45,000 to 54,000 in 2011.

In Langsomepi village among the total surveyed households about 91.8 per cent karbi family are involved in jhum cultivation and other 8.82 per cent non karbi families are involved in jhum cultivation system. In Mulokbong village, about 88.89 per cent families involved in jhum cultivation is Karbi and other 12.5 per cent families are non karbi. In Riso Rangphar village all surveyed families are Karbi and fully involved in jhum cultivation. In this study area it has surveyed 55 households, among them 90.91 per cent are karbi family and other 9.09 per cent are non Karbi families involved in jhum cultivation system (Table 3). Involvement of karbi families in jhum cultivaton is higher than the non karbi families in the study area.

Table 2: Status of jhum cultivation in Karbi Anglong District

Year	Area under jhum (hectares)	Area effected by jhum (in hectares)	No. of families involved in jhum
1976	54000	415,000	45,000
2011	63,000	76,000	54,500

Source: Directorate of Economics and Statistics, Govt. of Assam.

IJDP Cell, Karbi Anglong Autonomous Council, 2011

Table 3: Number of families Involved in jhum in different villages of Karbi Anglong District

Villages	No. of families involved in jhum in per cent		
	Total families	Karbi families	Non-karbi tribal families
Langsomepi	34 (100)	31 (91.8)	3 (8.82)
Mulokbong	18 (100)	16 (88.89)	2 (12.5)
Riso Rangphar	3 (100)	3 (100)	0
Total surveyed households	55 (100)	50 (90.91)	5 (9.09)

Source: Primary Survey, 2016-19

Note: Figures in parentheses indicate the percentage of the total,

Note: The surveyed households 55 out of 351 households as the sample size 30 percent of the total representative.

3.2 Involvement of people in different jhum activities in Karbi Anglong District

The major steps of shifting cultivation include as land selection, land preparation, sowing and planting, weeding, pest management, harvesting, threshing and storing.

Land selection

Land selection process is only done by the karbi people in all surveyed villages in Karbi Anglong District (100 percent) in the month of February. Land selection is considered based on soil fertility, slope elevation and accessibility and distance from the village. Land selection process is not the possession of non karbi people because among jhum activities the traditional village council of the Karbis community plays major role in the management of jhum lands. The village council distributes jhum land to each family according to their need in Karbi Anglong District.

Land preparation

Land preparation for jhum cultivation includes cleaning of jhum plot, burning, land leveling and cleaning of jhum plot boundaries are the major activities usually starts from March. In land preparation the vegetations are slashed and allowed to dry. The dried vegetation and the fallen logs are burnt in the month of April and May in Karbi Anglong District. All the activities of land preperation is done by karbi people in Riso Rangphar village (100 percent). Table 5 shows that in cleaning of jhum plot the involvement of Karbi people is highest (96.67 per cent) than non Karbi people (5.33 percent) in Langsomepi village. Table 6 shows in Mulokbong village the karbi peoples participation in cleaning jhum plot is highest (88.57 per cent) than non Karbi people (11.42 per cent). Involvement of people is highest in Burning and Land leveling

process by karbi people in Langsomepi village (92.86 percent) and Mulokbong village (83.33 per cent) than non Karbi people in Langsomepi village (7.14 per cent)and in Mulokbong village(16.67 per cent).The peoples participation in cleaning of jhum plot boundary is highest by karbi people in Langsomepi village (76 per cent) and Mulokbong village (75 per cent) than non karbi people in Langsomepi village (24 per cent) and in Mulokbong village (25 per cent).

Sowing and planting

In the month of May and June the jhum fields saturated as soon as the monsoon starts and sowing commences with distribute of burned ashes in jhum plots. Before sowing and planting activity the karbi people involved in applying organic manure in Langsomepi village (100 per cent) and Mulokbong village (100 per cent) and Riso Rangphar village (100) in Karbi Anglong District. Selection of seed for jhum cultivation and mixing process of seed is also done by Karbi people in Langsomepi village (100 per cent), Mulokbong village (100 per cent) and Riso Rangphar village (100 per cent) in the district with a handful of mixed seeds of rice, vegetables and cotton etc. are placed in the jhum field to complete the sowing and planting process (table 5, table 6 and table 7). Rice is the staple food in the district and cultivators aim to maximize growth of this crop so the quantity of rice seed is greater than other crop sown. Creepers, including pumpkin, sweet potato, sweet gourd, and watermelon, are raised in mounds some distance away in the field.

Weeding

Jhum requires minimum weeding. Weeds are controlled manually by using the knife. Two to three times weeding are necessary. Each and every cultivator in turn helps his or her

neighbor in weeding. Before weeding the indigenous karbi people along with non karbi tribal people are engaged in the jhum activities of broadcasting of seed and care of germination and watch of seedling of crops in jhum field. In both broadcasting activity and care of germination the indigenous karbi people about (60 percent) and non karbi tribal people about (40 percent) are engaged in Langsomepi village (table 5). While all these activities are completed by the indigenous Karbi people in Riso Rangphar village (table 7). On the other hand the broadcasting activity is done by Karbi people about (73.33 per cent) and non Karbi tribal people about (26.67 per cent), the care of germination of crops is done by Karbi people (60 per cent) and non Karbi people (40 per cent) in Mulokbong village of Karbi Anglong district (table 6).

Pest managements

Among the insect pests such as rat, wild pig, deer, monkeys and jungle fowl are the major cause of considerable damage of crops in jhum fields of Karbi Anglong District. Thus, jhum cultivators built 'Tong ghor' (small house) in the jhum field for guarding the crop against these vertebrate pests. The wild pigs and deer may seriously damage the young rice plants. On the other hand, rats, monkeys and jungle fowl cause serious damage to ripening crop. The work of watching seedling is famous activity in jhum field for pest management in Karbi Anglong District .The jhum activity of watch of seedling in jhum field is completed by all the Karbi people in Riso Rangphar village. In Langsomepi village the watch of seedling activity is done by 75 per cent Karbi people and only 25 non Karbi tribal people (table 5). The watch of seedling activity is completed by the maximum Karbi people about (80 per cent) and only minimum non Karbi tribal people about (20 per cent) in Mulokbong village (table 6).

Crop harvesting

Harvesting is an important process of cutting and collecting crops in jhum field starts from the month of November (Fig 2) Harvesting begins at the mature stag of crops. The first crop to collect at mature stage is maize in mid-July, followed by melons and different varieties of vegetables from jhum field. Rice and other grains are ready for harvest from November, and cotton is collected in October. The rice panicles are harvested and brought to the temporary house in the jhum field. A special kind of knife locally called 'chari' is used for harvesting rice panicles. Rice straws are cut from the base and leave in the jhum field for few days. Yield of jhum crops are found to vary between years and between jhums. It is noticed that distribution of rainfall is the most important factor on which production largely depends. the reaping of crops and in making bundle in Riso Rangphar village all the involved people are indigenous Karbi. In Langsomepi village the people involved (88.24 per cent) in reaping activity of crops and making bundle are Karbi, only a few people (11.76 per cent) involved are non Karbi tribal people (table 5). In Mulokbong village there are 90 per cent people are engaged in reaping activity of crops and making bundle of crops are Karbi whereas only 10 per cent involved people are non Karbi tribal farmers (table 6) .

Jhum rice threshing and storing: Threshing of jhum rice is usually done by foot and sticks in Karbi Anglong District. Rice is usually stored as unhusked paddy either in the gunny bag or storing container made of bamboo. Carring of crops from jhum field and storage for seed purpose are done by 80 percent Karbi people anf 20 per cent by non Karbi tribal people and storage for consumption is completed by maximum Karbi people (89.25 percent) and mnimum non Karbi tribal people (12.5 percent) in Langsomepi village (table 5). In Mulokbong village carring crops from jhum field by Karbi people (91.11 per cent) and by non Karbi tribal people (8.89 per cent). storage for consumption done by Karbi people (84 per cent) and non Karbi tribal

people (16 per cent). the activity of storage for seed purpose is completed by Karbi people (73.33 per cent) and non Karbi tribal people (26.67 per cent) in Mulokbong village of Karbi Anglong district (table 6).

Jhum cycle

The period of jhum cycle has declined rapidly in Karbi Anglong District. In earlier the jhuming process was not unproductive as in present time. The jhum cycle duration in earlier time was long from 10 to 15 years of time. The cultivated plot of jhum land could replenish lost fertility during the jhum cycle. At present, due to increase of population growth, deforestation on land the jhum cycle has become shorter from 2 to 3 years, so the fertility of cultivated plot of jhum land cannot replenish in its short duration of jhum cycle. Therefore, the production from the jhum cultivation has decreased to a greater extent .The period of jhum cycle of Karbi Anglong district is high in comparison to different parts of north-eastern region.

Jhum crops

Jhum cultivators produce all kind of crops in jhum fields. Large amount of cereals, vegetable, pulse, oilseed, spices, fruits and fiber crops are found to grow and rice is always the main crop in jhum field. Cultivators use many traditional varieties, which used to supply almost all the necessities of food and fiber.

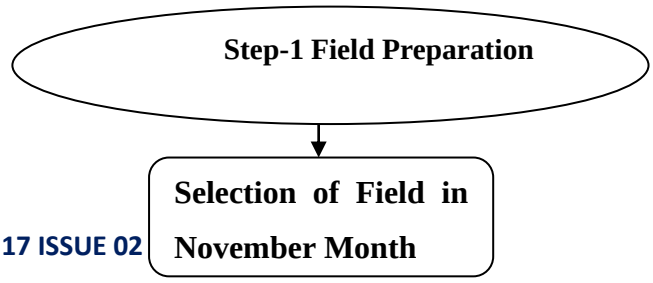
3.3 Cultural and religious norms in jhum cultivation

The ethnic karbi communities select their jhum lands based on certain religious believes in Karbi Anglong District. Before starting of jhum practices as well as at harvesting period some rituals and festivals are celebrated by only karbi people. They believe that these rituals and festivals are good sign for successful cultivation. Among the rituals and festivals 'Rongker' is

the major spring time annual festival celebrated among Karbi people at the beginning of New Year in the month of April before starting of jhum cultivation. In this festival the elderly male folk organize Rongker so that people can be free from diseases and natural calamities for the entire year. The women are not allowed to enter the worship arena during the festival. 'Haccha' is a popular harvest dance which is also an all male dance form. Haccha is performed at the annual religious function when rice sprit is ritually ushered after harvest. The festivel 'Ritnong chingdi' is a group dance performed by young boys and girls , enacting the various stages of traditional 'slash and burn' farming through simple rhythms of wedge-laced drum called 'Cheng-burup'. Every stage of the farming activities from preparation of the farming site, cutting-cleaning-burning of the wood, sowing of seeds till ripening and harvesting of paddy etc. are narrated by a male ritual singer (lunsepo). The dancers in their exquisite traditional attires are equipped with hoes (ku), machetes (nopak), knives (tari), and bamboo baskets (hak) etc.

Jhum calendar: This jhum calendar has been prepared with help of interview of jhum cultivators of the study area (Fig 2 and Fig 3)

STEP 1: FIRST SELECTION AND JHUM FIELD PREPERATION TO HARVESTING PERIOD



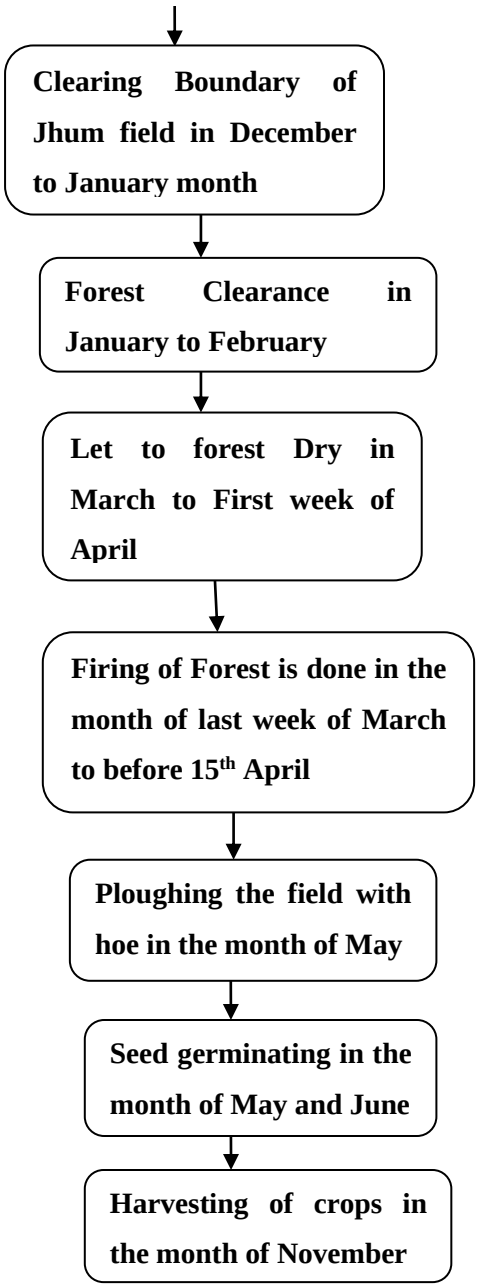
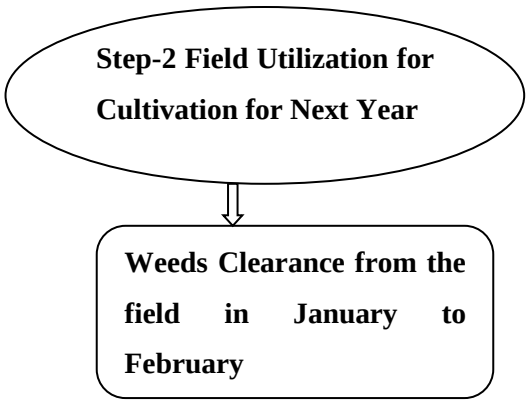


Fig 2: Stages of jhum practice after selection of jhum plot (Primary survey, 2016-18)

STEP 2: JHUM CALENDAR FOR NEXT YEAR CULTIVATION



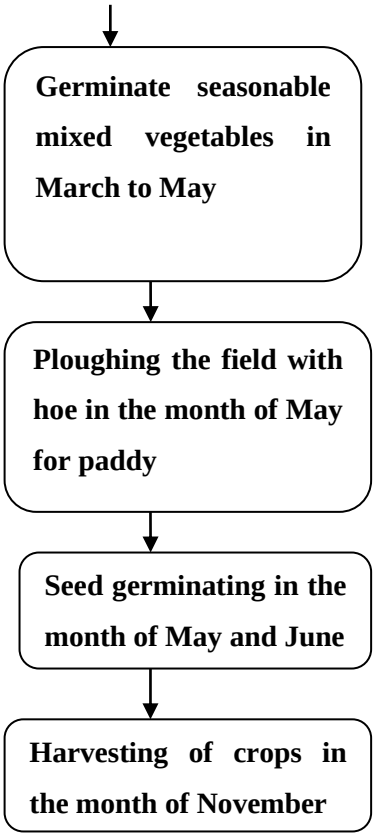


Fig 3: Jhum calander for jhum practice (Primary survey and real field observation, 2017)

3.4 Critical Analysis

Jhum cultivation is the dominant land use system and traditional method of livelihood earning in Karbi Anglong district. The indigenous Karbi people in the district are mostly engaged in jhum cultivation rather than other farming system such as pani kheti or tarrace cultivation and pond based farming system (table 4). The participation of karbi and non karbi people in other farming system is very low in Karbi Anglong District. All the surveyed households of the karbi people of the three selected villages are practiced jhum cultivation (100 per cent). There are 26.47 per cent households who practice pani kheti and 0.09 per cent

households practice pond based farming in low lying areas in Langsomepi village. On the other hand , there are 33.33 per cent karbi households participate in pani kheti and only 5.56 per cent households practice pond based farming as supporting of their livelihood patterns in the district. Because of the hilly terrain jhum cultivation is most suitable farming system for the way of life of indigenous karbi people. Farming system is generally productive, making proficient use of natural resources, ensuring sustainability and food security to rural karbi people in the district. It is observed that the maximum karbi people of surveyed villages in Karbi Anglong district are involved mostly in jhum activities (table 5). They are involved in jhum field for production of food. Jhum cultivation is a culture of the karbi people in the district. It is the principal support for their families. In the jhum field both the men and women of all families of the villages work equally.

Table 4: Involvement of karbi people in different indigenous farming practices in Karbi Anglong District

Village name	House hold participation in different types of indigenous farming system (in per cent)		
	Jhum kheti	Pani kheti	Pond based farming
Langsomepi village	31 (100)	9 (29.03)	3 (9.68)
Mulokbong village	16 (100)	6 (37.5)	1 (6.25)
Riso Rangphar village	3 (100)	1 (33.33)	0 (0)

Source: Prima survey, 2016-19

Note: Figures in parentheses indicate the percentage of the total

Table 5: Peoples participation in different jhum activities in three Langsomepi village of Karbi Anglong District

Agricultural activities of Langsomepi village	Participation of people of households in per

	cent		
	Total	Karbi	Non-karbi tribal people
1. Land Selection	80	80 (100)	-
2. Clearing of jhum plot	150	145 (96.67)	8 (5.33)
3. Burning and land levelling	70	65 (92.86)	5 (7.14)
4. Cleaning of jhum plot boundary	50	38 (76)	12 (24)
5. Organic manure application	20	20 (100)	-
6. Selection of seed for jhum field	30	30 (100)	-
7. Mixing of seeds	120	120(100)	-
8. Broadcasting	50	30 (60)	20 (40)
9. Care of germination	50	30 (60)	20 (40)
10. Watch of seedling	20	15 (75)	5 (25)
11. Reaping of crops and making bundle	170	150 (88.24)	20 (11.76)
12. Carring of crops from field	100	80 (80)	20 (20)
13. Storage for consumption	80	70 (89.25)	10 (12.5)
14. Storage for seed purpose	50	40 (80)	10 (20)

Source: Primary survey, 2016-19

Note: Figures in parentheses indicate the percentage of the total

Note: Number of people engaged in agricultural activities in 351 (100 per cent) out of total 351 people of 55 households of three selected villages

Table 6: Peoples participation in different jhum activities in Mulokbong village of Karbi Anglong District

Agricultural activities of Mulokbong village	Participation of people of households in per cent		
	Total	Karbi people	Non-karbi tribal people
1. Land Selection	40	40 (100)	-
2. Clearing of jhum plot	70	62 (88.57)	8 (11.42)
3. Burning and land levelling	30	25 (83.33)	5 (16.67)
4. Cleaning of jhum plot boundary	20	15 (75)	5 (25)

5. Organic manure application	10	10 (100)	-
6. Selection of seed for jhum field	20	20 (100)	-
7. Mixing of seeds	50	50 (100)	-
8. Broadcasting	30	22 (73.33)	8 (26.67)
9. Care of germination	20	12 (60)	8 (40)
10. Watch of seedling	10	8 (80)	2 (20)
11. Reaping of crops and making bundle	80	72 (90)	8 (10)
12. Carring of crops from field	90	82 (91.11)	8 (8.89)
13. Storage for consumption	50	42 (84)	8 (16)
14. Storage for seed purpose	30	22 (73.33)	8 (26.67)

Source: Primary survey, 2016-19

Note: Figures in parentheses indicate the percentage of the total

Table 7: Peoples participation in different jhum activities in Riso Rangphar village of Karbi Anglong District

Agricultural cctivities of Riso Rangphar village	Participation of people of households in per cent		
	Total	Karbi people	Non-karbi tribal people
1. Land Selection	8	8 (100)	-
2. Clearing of Agricultural plot	15	15 (100)	-
3. Burning and Land levelling	12	12 (100)	-
4. Cleaning of plot boundary	17	17 (100)	-

5. Organic Manure application	5	5 (100)	-
6. Selection of seed for jhum field	7	7 (100)	-
7. Mixing of Seeds	10	10 (100)	-
8. Broadcasting	14	14 (100)	-
9. Care of germination	9	9 (100)	-
10. Watch of Seedling	6	6 (100)	-
11. Reaping of crops and making bundle	22	22 (100)	-
12. Carring of crops from field	20	20 (100)	-
13. Storage for consumption	18	18 (100)	-
14. Storage for seed purpose	8	8 (100)	-

Source: Primary Survey, 2016-19

Note: Figures in parentheses indicate the percentage of the total

Conclusions

The study shows that the karbi people participated in jhum cultivation are in varying degrees in different surveyed villages in Karbi Anglong District. The indigenous karbi people are found to be involved to greater extent in almost all the jhum farm activities. Therefore, the indigenous karbi people are the backbone of hill agriculture of the district. So, it is high time to recognize intensive training for these indigenous people, which will help them to raise their standard of living

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