

Changing Trends in Livelihood in Tribal Domain of Assam An analysis of Census data

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Abstract:

The tribal economy is closely attached to immediate natural resources like land and forests. However, State and non-state forest exploitation, restrictions put on natural resources by the State, the impact of extraction industries and the development projects in the tribal domain have made tribal people resourceless to continue their livelihood using traditional resources. The tribal economy in the State of Assam is agro-based and small farmers. Over the last few decades, there has been a declining trend of tribal people involved in cultivation. The study shows the shifting trend of livelihood from traditional cultivation to other activities in the tribal domain using Census of India data between 1991 and 2011. Using percentage distribution of the main workers and the marginal workers in cultivation, agricultural labour, Household Industries and Other work categories, the paper tries to show the shifting trends in the livelihood of tribal people. The paper finds a consistent decline in main workers as cultivators among the tribes over the decades and a steady increase in Other economic activities and marginal workers.

Keywords: Livelihood, Displacement, Rural Transformation, Tribal land alienation

Date of Submission: 02-04-2022

Date of Acceptance: 16-04-2022

I. INTRODUCTION

Shifting dominance of Agriculture in Indian Economy:

Indian traditional economy is primarily based on agriculture. While there has been a drastic shift from a farm-based economy to other sectors, the rural Indian communities are still dependent on agriculture. However, studies have shown a decline in the agricultural sector's contribution to national GDP. The World Bank report (2012) on issues and priorities for agriculture in India reveals that agriculture's share in India's economy has progressively declined compared to the high growth rates of the industrial and services sectors. However, there is an undeniable importance of agriculture in India's economic domain and social fabric. About 70 percent of the Indian population lives in rural areas, and agriculture is the primary source of livelihood for these people. Further, India's food security is heavily dependent on producing cereal crops, fruits and dairy to meet the demands of a growing population with rising incomes. Mahapatra (2020) reveals the lesser involvement and interests of younger generations in farming activities and the inability of the farming sector to fulfil the growing needs of the people. Further, the census of India 2011 data shows that every day 2,000 farmers give up farming. Farm income has already lost the prime spot in a household's total earnings.

However, there is a decline in interest and involvement of younger generations in farm activities; as per the 2011 census, 70 per cent of Indian youths live in rural areas, and agriculture is the dominant and default source of livelihood by inheritance. The National Sample Survey Office data shows (NSSO, 2006) that during 2004-05 and 2011-12, about 34 million farmers moved out of agriculture, at a rate of 2.04 per cent per annum exit from farming. As per the Niti Aayog's estimation, at this trend, the share of farmers in the total workforce will be 55 per cent by 2022. Stating the reason for such a shift, Roy Chowdhury et al. (2020) says that there is a lack of sufficient public investment for agrarian development along with inadequate access to institutional credit, frequent droughts and floods are some of the prominent reasons contributing to the declining trend in agricultural sector's share in rural employment. Periodic Labour Force Survey (PLFS, 2020) for 2018-19 reveals that rural households' dependency on agriculture has declined to 50 per cent in the recent decade. The NSS's 38th round and the PLFS, 2018-19 reports show the agricultural sector's contribution to employment declined from 81 per cent in 1983 to 58 per cent in 2018. Contrarily, the rural non-agricultural sector employment options increased from 19 per cent to 42 per cent during the same period.

Transformation of Traditional Tribal Economic domain:

The economy of tribal people has constantly been transforming from its traditional dependency on natural resources like land and forest. With factors like rapid deforestation, state control over natural resources, land alienation due to various development projects and extraction industries in the tribal domain, the tribal

people have become lack livelihood resources of the traditional type. Research conducted among the tribes has revealed that the tribal people are not adequately resilient to the changing situations, and they have been turned into unskilled workers in unorganised sectors. Importantly, among the tribal farmers, landholding mostly remains small and is not engaged in commercial agriculture and farming. Traditionally, the tribal people are not seen as involved in financial investment in cultivation for profit-making. Further, they are not covered under the market network and institutional credit system for various geographical and political reasons.

Sarap (2017) states that the tribal people in the central belt of India have declining access to land and other resources resulting from land alienation and increased diversion of forest and other common property resources (CPR) for development projects. Many of the tribal population has been robbed of their traditional livelihood pattern. The author opines that the major causes of tribal poverty are lack of access to secured productive resources and insufficient participation in the decision-making process. Non-settlement of community rights over tribal land and the state's acquisition of natural resources, which otherwise were the livelihood resources of the tribal people, remains the major reasons for tribal people becoming resourceless. However, based on a study among tribal people in central India, Ballabh and Batra (2015) opine that the tribal people can learn and adopt new technology, enterprises and skills with appropriate institutional interventions. Farm activities have a high potential for economic development as the tribal domains are resource-rich. However, there is a need to develop perfection in the production of commodities and remove exploitation by intermediaries. An assessment report on the agricultural intervention in tribal areas in Madhya Pradesh (2009) reveals that the integrated development programmes like MPRLP, Tejaswini and large schemes like MGNREGA are pushing the agenda of agriculture development in tribal areas very strongly. The author feels that leveraging and convergence with these programmes can speed up the agriculture development in tribal areas. However, the report also identifies the vulnerability of tribal agriculture, such as the lack of reach of the state in the tribal areas, lack of institutional delivery mechanism, and the ineffective extension services are currently ineffective to address the cause of agriculture development in tribal areas. Tripathy's (2018) study among the Particularly Vulnerable Tribal Group, Juang, reveals a need to apply appropriate strategies for sustainable socio-economic development. Kukreti et al. (2016) find that among the tribal communities in the Eastern Ghats of Srikakulam and Visakhapatnam in Andhra Pradesh and Adilabad in Telangana, there is a paradigm shift in cropping pattern due to the available provision from the government on seeds, pesticides and fertilisers, promotion of High Yielding Variety of seeds, and increased market influence in the agriculture system leading to a decline in traditional indigenous types of crop cultivation. The authors are also critical of the impending threat of extinction of traditional seed varieties and traditional knowledge of cultivating them due to intensive mono and cash cropping using chemical fertilisers and pesticides. The study observed that the traditional agricultural practices demonstrated an inbuilt coping mechanism against adverse climate changes.

The undesirable trends of Rural Transformation in the Tribal domain:

Decreasing dependency on agriculture and increasing involvement in the manufacturing and service sectors have been characteristic features of rural transformation. It is a process of inclusive societal change through which the rural societies diversify their economies and reduce their dependence on agriculture (Julio Berdegué 2014). It is also a long term multi-dimensional change process of the key characteristics of rural populations' economic and social life (Rauch et al., 2016). The resource-rich tribal domain has been the target of extraction industries and development projects. Traditionally, the tribal people have been dependent on the natural resource base. The intrusion of such industries and state-initiated development projects make the landless or resourceless. In such a situation, detachment of lesser involvement in farming activities is a forceful phenomenon in the tribal world. Their engagement in non-farm activities does not indicate a healthy rural transformation since it does not improve their lifeways in the desired direction. Mahanty (2005) forwards a critical view on the development pattern adopted between 1950 and 1990 since this development model continues the powerlessness of the weaker sections due to displacement and without any benefits from these development projects. Emphasising tribal land alienation, Behura and Panigrahi (2006) claim that until 1999, at least 24,124 hectares of land had been deforested for the construction of dams, mines, roads, and railways and new industries in Odisha. Mahanty and Mahanty (2009) indicate that the displacement and rehabilitation process has several shortcomings since it does not address the non-financial issues of displaced tribal people. Similarly, in Pradesh, Rao et al. (2007) expressed that development projects are the emerging sources of displacement in the scheduled areas. The field survey of Sharma and Singh (2009) has shown how the area's people suffered untold damage due to inadequate and improper resettlement and rehabilitation programmes. Kumar et al. (2011) state that due to the non-recognition of rights community on common land in tribal villages, three-fourths of all land in these tribal-dominated districts of ^{the fifth} scheduled area became state property, making them marginal landholders or landless tribes. Ray and Saini (2011) also find a similar situation among Odisha tribes. Kumar (2013) also reveals that land acquisition has destroyed people's livelihood and social setting and violated basic human rights in Jharkhand.

The Domain of Agriculture in Assam:

There have been regional variations in agricultural practices and outputs since farming is intensely dependent on climate, geography and techno-culture. In this light, the domain of agriculture in the state of Assam may be discussed. Agriculture plays a vital role in the economy of Assam. Assam is heavily dependent on the agricultural sector. Seventy percent of the people of Assam are directly or indirectly dependent on the agricultural sector. Rice is the most important crop in Assam.

Singh and Sharma (2007) reveal that the agricultural sector shares 50 percent of the total gross domestic product. The agricultural sector also employs 70 per cent of the workforce of the state. However, despite favourable agro-ecological conditions, the agriculture sector has not grown as expected. There is a certain positive impact of the increasing use of chemical fertilisers on the changing agricultural productivity and HYV seeds in expanded areas. De and Bodosa (2014) reveal that in almost all districts of Assam, crop specialisation has been taking place. They have also observed that farmers only resort to more crop diversification in hilly and backwards districts of lower-value crops. Deka et al. (2018) reveal that as per the Economic Survey of Assam, 2016-17, there is a marginal decrease (from 19.89% to 18.66%) in the agriculture sector's contribution to Gross State Domestic Products. The authors state that the state's economy is predominantly agrarian. The Economics Survey of Assam, 2016-17 reveals that the net cultivated area of the state covers about 88 per cent of the total land available for cultivation. Rice occupies 87.89 per cent of the net cropped area and 60.87 per cent of the gross cropped area. The report also shows an increase in the net area sown, total cropped area and area sown more than once. However, a moderate level of crop diversification was observed in the state, declining in four major zones of Assam.

THE RATIONALE OF THE STUDY

The literature discussed in the preceding paragraphs reveals a shift of people's dependency on agriculture to other sectors as an adaptive mechanism for a better livelihood outcome. However, the literature shows that in the case of tribal people, this shift has been mostly emerging due to compulsions emerging due to coercive land alienation and shrinking of natural resources in the tribal domain due to state action and extraction industries. One of the primary aspects of rural transformation has been the shift of dependency of the rural population from agriculture to non-farm sectors. As a rain-fed area, Assam's population heavily depends on agriculture as a primary economic activity and livelihood. Rice cultivation remains the primary agro-product in the state because water is available round the year. People's dominant cultural festivals and practices are also centring around the act of rice cultivation. It is important to note here that contrary to such a dependency on cultivation, the people in general, and the tribal people in particular, do not possess a large amount of cultivable land for which they remain primarily small and subsistence farmers. Based on these findings, the study aims to peep into the shift of livelihood domain of tribal people in Assam since few studies are done in this area.

THE OBJECTIVE OF THE STUDY

The primary objective of the study is to find out the shifting trends of tribal people from agriculture to other activities based on the Census of India data.

II. MATERIALS AND METHODS

The data required for the study has been collected from the Census of India Digital access. Data from 1991, 2001 and 2011 Censuses have been used for three tribal communities: Bodos, Karbis and the Sonowal Kacharis. Karbi tribes predominantly live in the Hills of Assam; the Bodos live in the western part of Assam, while the Sonowal Kacharis live in the easternmost part of the state. Besides this geographical and geophysical variation, these tribes have many cultural differences.

The shifting trends of livelihood over these three census decades were assessed by calculating the percentages in an Excel sheet and presented based on these percentage differences over the years.

III. THE RESULTS

The Karbi Domain

Dependency of Karbis on cultivation

Karbi Anglong is one of the enchanting districts of Assam. The district is located in the central part of the state. It is interesting to note that there is a wide disparity in rainfall. Though the average rainfall in the districts is about 2416 mm, the areas like Kheroni, Amreng, and Dhansiri areas of Karbi Anglong are known as rain shadow areas. Agriculture is the mainstay of the tribal population of the districts. The traditional cultivation method is the slash and burn, commonly known as jhuming. There has been constant endeavour on the part of the government for the jhumias for adopting permanent cultivation on slopes through terracing and other measures of checking soil erosion and cultivation of horticultural crops such as pineapple, orange, mausambi, black pepper, papaya, areca nut and field crops like maize, cotton, jute, mesta etc., on the plain valley. The other

is introducing high yielding varieties of paddy, maize, wheat & improved varieties of oilseed, pulses, sugarcane and vegetables. Rice cultivation in terms of area under cultivation and the gross rice production dominates the district. Nearly 90 per cent of arable land is used for rice cultivation, and rice remained the dominant food grain in the district. Horticulture in the hill region plays a vital role in the tribal economy. Endowed with favourable climate and soil types, the crops like pineapples, orange, mausambi, pears, papaya, areca nut, and coconut are extensively cultivated. In some areas, spices are grown extensively on a commercial basis. Spices include ginger, turmeric, chilli, garlic, onion, and coriander. Likewise, the common tuber crops grown in the district are potato, tapioca & sweet potato.

The macro data based on the census of India reveal that there has been a decline in the percentage of people involved in cultivation as main workers over the last three census years. Table I reveals that while nearly 92 per cent of the working population was classified as the main cultivators in the 1991 census, it has reduced to nearly 80 per cent in the 2011 census. Interestingly, there is slight among the male workers involved in cultivation as main cultivators, whereas there is a steady decrease in female mail cultivators. It indicates that people are now more engaged in commercial crops where women's involvement is mostly lacking, or their contribution is not counted. This finding negates the concept of "feminising cultivation" among the Karbis in the Karbi Anglong district of Assam.

Table I. Composition of Karbi main cultivators

Census Years	Cultivation as Main Work Among Karbis		
	% of Total Cultivators within Main workers	% of male Main Cultivators	% of female Main Cultivators
1991	91.56	58.94	32.62
2001	83.61	59.06	24.54
2011	80.26	62.29	17.97

Marginal cultivators in Karbi Domain

The census data shows that among the rural Karbi, the decline in the overall percentage share of marginal cultivators is due to the sharp decline of women's share in cultivation as marginal workers. Table II shows that while in 1991 there was 85.34 per cent of marginal cultivators were recorded as female, it came down to 31.42 per cent in the 2011 census, a sharp decline of 54 per cent. Importantly, it is seen that males entered into the cultivation as marginal workers over these years with a growth rate of nearly 15 per cent. It may be because cultivation no longer remained a lucrative or sustainable livelihood option for many tribal people due to the relative devaluation of agro-products and declining amount of cultivable land, lack of or inability to engage labour by the tribal cultivators. Men's entry into the cultivation sector ultimately reduces the quantum of involvement of women in this sector. The overall decrease in the percentage share of marginal cultivators also indicates that people leave cultivation as one of their livelihood options and resort to other works in these years.

Table II: Composition of Karbi marginal cultivators

Census Years	Percentage share of Marginal Cultivators among Karbis			PC of total Marginal workers to total workers
	Marginal Cultivators to total Marginal workers	Male Marginal Cultivator	Female Marginal Cultivators	
1991	90.55	5.21	85.34	13.17
2001	55.92	19.49	36.43	33.08
2011	52.26	20.84	31.42	36.36

Tribal Labour in Agricultural Sector as main workers:

Considering that the significant chunk of main workers among the Karbis remains the cultivators, we see a very minimal chunk of main workers in other sectors. It has been stated that the traditional agricultural pattern is not commercial among the tribes. Thus, despite the vastness of the agricultural sector as a livelihood option, it has limited capacity to recruit labour. The agricultural labourer as main work has been limited to 3.28 per cent main workers in 1991 census. With a marginal increase, it has been recorded that there were 6.62 agricultural labourers among the Karbi tribes in the census year 2011.

Nevertheless, we can see a steady increase of both males and females percentage share in this sector over the census years. Table 3 shows that while there is an overall 3.34 percent increase in agricultural

labourers, this increase is 2.02 per cent among males and 1.33 per cent for women. It indicates that there have been commercial or relatively large-scale farming activities in the Karbi domain that recruit and require paid labour. It also indicates that the farm sector has generated employment opportunities in recent years.

Table III: Composition of main rural agricultural labour among Karbis

Census Years	Percentage share of Main Agricultural Labour among Karbis		
	Main Agricultural Labour to total Main workers	Male Main Agricultural labour	Female Main Agricultural Labour
1991	3.28	1.63	1.64
2001	3.35	2.17	1.18
2011	6.62	3.65	2.97

Marginal Agricultural labour among Karbis

Census data shows a significant increase in the percentage share of marginal agricultural labourers among the rural Karbi population within the overall marginal workers. Table IV shows that while this increase is nearly 8 per cent for males, it is nearly 18 per cent for the female marginal workers between 1991 and 2011. It indicates that some agricultural activities are emerging in the rural Karbi domain where temporary labour demand exists, and these employment opportunities are primarily open to women.

Table IV: Composition of marginal agricultural labour among the Karbis

Census years	Percentage share of Marginal Agricultural Labour among Karbis		
	Marginal Agricultural Labour to total Marginal workers	Male Marginal Agricultural Labour	Female Marginal Agricultural Labour
1991	8.66	1.09	7.57
2001	27.16	8.08	19.07
2011	34.40	9.07	25.33

Shifting trends of rural economy from agriculture to other sectors in Karbi Domain:

Census data over the last three census operations have shown no significant growth in Household Industries in the Karbi domain. Overall, there is only a 0.62 per cent increase from 0,68 per cent recorded in 1991 till 2011. There is a corresponding trivial increase in the percentage share of males and females. It indicates that despite much-hyped industrial and entrepreneurial training advertisements on the part of concerned government departments, they are unable to imprint an impact on tribal societies for which the tribal people are unable to adopt Household Industries as their main livelihood.

Contrary to such a picture, Table V shows a substantial increase in the percentage share of main workers in other economic activities. As mentioned, these are diverse economic activities and not well integrated. However, improved transport and communication and the emergence of urban conglomerates or census towns have increased the opportunity for tribal people to engage in these diverse and non-farm activities. The figure shows a nearly 7 per cent increase in the percentage share of main workers in other categories, an increase from 3.94% in 1991 to 10.61% in 2011. Among the males, the increase in percentage share is nearly 4 per cent, and among the females, the increase is 3 per cent, which is encouraging.

Table V: Composition of Main Household Industries and Other Industries among Karbis

Census Years	Percentage share of Main workers in Household Industries and Other activities among Karbis					
	Total workers in Household Industries	Males in Household industries	Females in Household Industries	Total workers in Other Industries	Males in Other Industries	Females in Other Activities
1991	0.68	0.36	0.32	3.94	3.18	0.75
2011	2.31	0.84	1.47	10.73	8.25	2.48
2011	1.29	0.87	0.42	10.61	7.02	3.58

The Bodo Doman:

Dependency of Bodos on cultivation

Bodos are the numerically dominant tribal groups in Assam. Cultivation has remained their primary livelihood since time immemorial. Rice is the staple food and the dominant food grain produced by them. Besides being tribal people, they also produce many other agricultural products like garden crops, including betel nuts, pineapple, black gram, and various fruits and vegetables. Betel nuts are one of the major commercial agro products among the Bodos. Bodos live in the plains of Brahmaputra valley mostly. Like all other tribal populations of the state, the Bodos, in general, do not hold a large amount of cultivable land and thus hardly do cultivation on a commercial basis except in a few cases in recent decades. The census of India data for the Bodo tribes shows a steady decline in the percentage share of Bodo people as Main cultivators over the last three census years, between 1991 and 2011. Table VI shows that while 72.43 per cent of Bodo workers were main cultivators in 1991, it declined to 62.59 per cent in the 2011 censuses. It shows a shift of economic activities and dependency on cultivation as the main source of livelihood to something other. A similar and corresponding decline in percentage share among male and female main cultivators is seen among the Bodo people. Interestingly, compared to males, a far smaller percentage of Bodo women are recorded as main cultivators, even though tribal women do almost equal work in the traditional cultivation process.

Table VI: Composition of Bodo main cultivators

Census Years	Cultivation as Main Work Among Bodos		
	% of Total Cultivators within Main workers	% of male Main Cultivators	% of female Main Cultivators
1991	72.43	54.98	17.45
2001	67.12	51.12	16.01
2011	62.59	50.26	12.33

Marginal Cultivators among Bodos:

Like the Karbi rural domain, the Bodo Kachari rural domain also exhibits a sharp decline in the percentage share of marginal cultivators. This decline is due to the exit of females from this sector. Table VII shows that from 79.14 per cent in 1991, the female marginal cultivators reduced to 22.36 per cent in 2011. However, in the case of male marginal cultivators, there is an increase of nearly 8 per cent between the 1991 and 2011 census years.

Table VII: Composition of Bodo marginal cultivators

Census Years	Percentage share of Marginal Cultivators among Bodos			PC of total Marginal workers to total workers
	Marginal Cultivators to total Marginal workers	Male Marginal Cultivator	Female Marginal Cultivators	
1991	90.55	5.21	85.34	13.17
2001	55.92	19.49	36.43	33.08
2011	52.26	20.84	31.42	36.36

Main Agricultural Labourers among Bodos:

Table VIII shows that there is an uneven decline in the percentage share of main agricultural labourers in the Bodo domain. Contrary to the Karbi domain, there is an overall decline in the percentage share of main agricultural labourers in the Bodo domain. Overall, there is a nearly 7 per cent decline in agricultural labourers from 17.12 per cent in the 1991 census reduced to 10.63 per cent in the 2011 census. A similar decline has been seen among males and females percentage share in this sector, indicating that there is hardly any diversification of farm activities from traditional to commercial basis. Thus, the agriculture sector has been unable to increase employment generation in the Bodo domain as per these data.

Table VIII: Composition of main rural agricultural labour among Bodos

Census Years	Percentage share of Main Agricultural Labour among Bodos		
	Main Agricultural Labour to total Main workers	Male Main Agricultural labour	Female Main Agricultural Labour
1991	17.12	11.35	5.77
2001	8.85	6.39	2.45
2011	10.63	6.63	3.99

Marginal Agricultural Labourers among Bodos:

In Table IX we can also see a similar changing trend in the Bodo rural domain. We see more percentage share of Bodo women as marginal agricultural labour with an almost equal extent of increase (nearly 10 per cent) among males and females.

Table IX: Composition of marginal agricultural labour among the Bodos

Census years	Percentage share of Marginal Agricultural Labour among Bodos		
	Marginal Agricultural Labour to total Marginal workers	Male Marginal Agricultural Labour	Female Marginal Agricultural Labour
1991	15.03	1.04	13.99
2001	29.71	10.20	19.51
2011	34.74	11.28	23.45

Shifting trends of rural economy from agriculture to other sectors in the Bodo Domain:

Table X shows that the percentage share of main workers in Household Industry is categorically smaller, ranging between 1.32 per cent (1991 census) and 2.23 per cent in the 2011 census. It shows an increase of nearly 1 per cent in three decades. Subsequently, we see a trivial increase in the percentage share of males and females in Household Industries. It also indicates that the Bodo domain is not significantly conversant with the Household Industry sector. The field study has revealed that there has been significant involvement of Bodo women in the weaving and selling of handloom products in the last few years. However, considering the vast population, their involvement has not been as significant to be reflected prominently in the macro data.

Contrary to the insignificant shift to Household Industries, there is a significant increase in the percentage share of main workers in other sectors. Between the 1991 and 2011 census years, there was a 13.84 per cent increase in the overall percentage share of main workers in other works. While these increases in percentage share among males us nearly 8 per cent, it is nearly 6 per cent among the women. It indicates non-farm based entrepreneurial activities both among males and females. Thus, there have been diverse livelihood options the Bodo people are involved in where employment generation has been promising.

Table X: Composition of Main Household Industries and Other Industries among Bodos

Census Years	Percentage share of Main workers in Household Industries and Other activities among Karbis					
	Total workers in Household Industries	Males in Household industries	Females in Household Industries	Total workers in Other Industries	Males in Other Industries	Females in Other Activities
1991	0.68	0.36	0.32	3.94	3.18	0.75
2011	2.31	0.84	1.47	10.73	8.25	2.48
2011	1.29	0.87	0.42	10.61	7.02	3.58

Bodo Marginal workers in Household Industries:

Table XI indicates that among the rural Bodo domain, the percentage share in Household Industries is slightly higher than the Karbi domain as 6.13 per cent of 31.94 per cent of total marginal workers are recorded as marginal Household Industries workers in the 2011 census.

Table XI: Composition of Marginal Household Industries workers among Bodos

Census years	Percentage share of Marginal workers in Household Industries			PC of total Marginal workers to total workers
	Total Marginal workers in Household industries	Male Marginal workers in Household Industries	Female Marginal workers in Household Industries	
1991	1.35	0.04	1.31	18.43
2001	7.48	0.71	6.77	32.06
2011	6.13	1.55	3.42	31.94

The Sonowal Kachari Domain:

Dependency of Sonowal Kacharis on cultivation

Sonowal Kacharis mostly live in upper Assam and the plains of the Brahmaputra valley. They are predominantly cultivators, popular for rice cultivation and garden crop production like betel nuts and vine leaf. Besides, people are also adept at raising vegetables and other cash crops like a mustard seed, black gram, and pumpkin. The Sonowal Kacharis are the earliest known tribal group who have adopted Vaishnavism and thus became Hinduised. They have also adopted lots of non-tribal lifeways over some time. We have seen that compared to all other tribal groups in the state, the Sonowal Kacharis are a little more advanced in education and accessing amenities and venturing into the urban lifeways. However, they are still grounded in traditional cultivation and rural life to a great extent.

Table XII shows a steady decline in the percentage share of main cultivators over the last three census decades, a total of nearly 14% between the 1991 and 2011 census records. Similarly, there has been a minimal decline in male participation as main cultivators. Women's percentage share as the leading cultivator has gone down from 26.13 per cent to 13.79 per cent, a decline of nearly 12 per cent. The trivial decline of males' involvement as the main cultivator also indicates that a section of Sonowal Kachari people are now involved in producing cash crops where the involvement of women is negligible or absent. The decline of women from cultivation as the main work also reveals a steady decline in dependence on rice cultivation as the main source of livelihood.

Table XII: Composition of Sonowal Kachari main cultivators

Census Years	Cultivation as Main Work Among Sonowal Kacharis		
	% of Total Cultivators within Main workers	% of male Main Cultivators	% of female Main Cultivators
1991	76.95	50.82	26.13
2001	68.51	49.75	18.77
2011	62.77	48.98	13.79

Marginal Cultivators among the Sonowal Kachari:

Like the Bodo Kacharis and the Karbi, a trend in marginal cultivators among the Sonowal Kacharis persists. Table 13 shows that against the overall decline of 30.19 marginal cultivators, there is a nearly XIII per cent increase in males' participation as marginal cultivators among the Sonowal Kacharis. There is a 44.40 per cent decline of female marginal cultivators between the 1991 and 2011 census years.

Table XIII: Composition of Sonowal Kachari marginal cultivators

Census Years	Percentage share of Marginal Cultivators among Sonowal Kacharis			PC of total Marginal workers to total workers
	Marginal Cultivators to total Marginal workers	Male Margina Cultivator	Female Marginal Cultivators	
1991	86.67	9.40	77.27	19.91
2001	75.55	25.83	49.72	40.72
2011	56.47	23.61	32.87	38.92

Rural Labour market in farm sector in Sonowal Kachari Domain:

Sonowal Kacharis are better known for rice cultivation and garden crops from long past. However, there is no instance of a commercial basis traditional system. The traditional labour engagement pattern was mainly based on mutual help through village level labour forces under a specific labour system called Hawri. However, over the last few years, there has been a shortage of labour and the disintegration of that mutual help system due to increased opportunity for paid work outside the agricultural domain. Some affluent or landed families used to keep residential help by engaging one or two people from the village or nearby tea gardens for the planting season in return for cash and kind. There has never been steady demand and supply of agricultural labourers in the Sonowal Kachari domain.

In the recent decade, tea plantation has been adopted at the family level, some at a cooperative level. These activities required a regular labour supply. Increased better facilities for transport and communication in the villages and increased demands for agro-products like fruits and vegetables in the nearby existing markets and upcoming semi-urban areas, people have started cultivating garden crops commercially. These are the few reasons for labour engagement in the agricultural sector in the Sonowal Kachari domain. However, the overall importance of agriculture as a lucrative livelihood has been diminished over the years. The trivial decline was seen overall and among the males and females may be due to the above reasons.

Main Agricultural Labour among Sonowal Kachari:

As shown in Table XIV, the census data for the Sonowal Kachari people as main agricultural labourers shows that it constitutes substantially a tiny percentage of total main workers. It shows 6.56 per cent in 1991, which has declined marginally to 5.43 per cent in the 2011 census record. A similar marginal decline is also seen among the males and females over these three census years. These observations reveal that the agricultural sector is not a promising employment generation sector among the Sonowal Kacharis.

Table XIV: Composition of main rural agricultural labour among Sonowal Kacharis

Census Years	Percentage share of Main Agricultural Labour among Sonowal Kacharis		
	Main Agricultural Labour to total Main workers	Male Main Agricultural labour	Female Main Agricultural Labour
1991	6.56	4.65	1.91
2001	4.41	3.15	1.26
2011	5.43	3.55	1.88

Marginal Agricultural Labour among Sonowal Kachair:

In Table XV a trend contrary to the previous one is seen among the Karbis and the Bodos, there is a lesser extent of increase in the percentage share of women in marginal agricultural labour (nearly 3 per cent). In contrast, this percentage is over 7 per cent among the males. It also indicates that Sonowal Kachari women are least inclined towards agricultural labour activities.

Table XV: Composition of marginal agricultural labour among the Sonowal Kacharis

Census years	Percentage share of Marginal Agricultural Labour among Sonowal Kacharis		
	Marginal Agricultural Labour to total Marginal workers	Male Marginal Agricultural Labour	Female Marginal Agricultural Labour
1991	11.80	0.98	10.82
2001	13.05	4.81	8.24
2011	21.91	8.14	13.77

Shifting trends of rural economy from agriculture to other sectors in Sonowal Kachari Domain:

Sonowal Kachari Main Workers in Household Industries and Other Industries:

The Sonowal Kacharis traditional domain is not adept with the Household Industries. People are known for rearing Endi and Muga to a great extent. However, they did not develop the weaving of Endi and Muga as a household industry. While they used Endi weaving for primarily domestic use, they used to sell the Muga cocoon to the traders coming from outside. Males are adept in bamboo craft which did not develop commercially. Only a few used to manufacture bamboo items for sale on a minor scale. use of modern technology had never penetrated the Sonowal Kachari domain to enhance their skill in locally available materials. It reflects in the rural Household Industries sector when we see a very marginal increase in the

percentage share of main workers in the Household Industries sector over the years. In the Household Industry sector, an overall increase of 1.63 percent of the main workers involved over the three decades. Similarly, there is only a 1 per cent increase in percentage share among males, whereas; among the females, there is only a 0.49 per cent increase among the women main workers in the Household Industries sector. It gives a deplorable picture of Household Industries sector growth among the rural Sonowal Kachari population.

Contrarily, there is a significant increase in percentage share among main workers involved in diverse economic activities across various sectors, classified here as other works. Table XVI shows that Sonowal Kacharis, especially the males are relatively more involved in other works and their main occupation, as shown in 1991 census data. Between the 1991 and 2011 census period, there is an overall increase of 11.31% in percentage share of Sonowal Kachari people in other works. There was also a corresponding increase in male participation from 11.68 to 18.70 per cent between 1991 and 2011. Likewise, there is nearly a 6 per cent increase in female participation in these sectors. It indicates that the Sonowal Kacharis have constantly been diversifying their livelihood away and separated from the agricultural sector. It is indeed a characteristic of transformation in rural livelihood.

Table XVI: Composition of Main Household Industries and Other Industries among Sonowal Kacharis

Census Years	Percentage share of Main workers in Household Industries and Other activities among Sonowal Kacharis					
	Total workers in Household Industries	Males in Household industries	Females in Household Industries	Total workers in Other Industries	Males in Other Industries	Females in Other Activities
1991	1.80	1.44	0.36	13.14	11.68	1.46
2011	1.84	0.89	0.95	25.23	21.63	3.60
2011	3.43	2.58	0.85	24.45	18.70	5.75

Marginal Workers in Household Industries among Sonowal Kacharis:

In Table XVII, a similar trend is seen among the rural domain of the Sonowal Kacharis in the rural Bodo domain with a slightly higher percentage share.

Table XVII: Composition of Marginal Household Industries workers among Sonowal Kacharis

Census years	Percentage share of Marginal workers in Household Industries			PC of total Marginal workers to total workers
	Total Marginal workers in Household industries	Male Marginal workers in Household Industries	Female Marginal workers in Household Industries	
1991	0.98	0.07	0.91	19.91
2001	4.46	0.53	3.93	40.72
2011	6.27	1.99	3.19	38.92

Labour and employment in the rural tribal domain:

Job Seekers among the tribes:

Census data for 1991, 2001 and 2011 have been analysed to assess the job-seekers among the workers and non-workers. However, due to the inconsistency of 1991 data, the 2001 and 2011 census data have been used for the analysis. Table XVIII shows a clear indication of the rise in job-seekers among the marginal workers and non-workers. The job-seekers among the marginal workers have increased from 17.33 percent to 32.09 per cent between the 1991 and 2001 census years. This increase is 13.91 percent among the Bodos and 15.64 percent among the Sonowal Kacharis. However, by percentage distribution, the Sonowal Kacharis have the highest percentage of marginal workers looking for jobs besides their involvement in some economic activities. It indicates that among the Sonowal Kacharis, surplus labour remains higher in all these tribes.

Similarly, among the non-workers, 19.56 percent of Sonowal Kachari people were looking for jobs during these census years, followed by the Bodos and the Karbis. The range of difference is 7 to 3 per cent. Such an increase in job-seeker percentage reveals aspiration and felt needs for jobs other than traditional livelihood involvement among the tribes over these years, which has been ever increasing. It also indicates the scarcity of employment opportunities to meet the needs.

Table XVIII: Marginal workers and non-worker Job seekers among Karbi, Bodo, and Sonowal Kachari

Census Years	MARGINAL WORKERS AND NON-WORKER JOB-SEEKERS					
	KARBI		BODO		SONOWAL KACHARI	
	Marginal WORKERS	Non-workers	Marginal WORKERS	Non-workers	Marginal WORKERS	Non-workers
1991	0.00	1.49	0.00	4.97	0.00	6.20
2001	17.33	8.70	21.31	12.30	25.63	15.95
2011	32.09	12.17	35.22	15.98	41.27	19.56

IV. DISCUSSION

The shifting trends between the main and marginal workers among the Tribal communities

The three census operations reveal a clear shift in work involvement between main and marginal workers. There seems to be some inconsistency in 2001 census data regarding declining changing trends. However, if we compare the 1991 and 2011 census data, we can see a relatively sharp decline in the involvement of tribal workers as main workers and a corresponding increase in marginal work involvement among all the three tribes. This shift is similar across gender. There may be more than one reason for such changes.

First and foremost, we have found a declining trend of main workers and cultivators over the census years. However, most of the main workers have been the cultivators across the tribes under the study. It may imply that agricultural activities are neither able to absorb people as main workers nor productive enough to be involved over six months a year. Decreasing landholding, increasing labour force in the family, and relative lesser reward from such activities may be the reasons behind it. There may also be the availability of other work opportunities around them for which they cut short their traditional main work involvement and get into some other work for less than six months or so. However, the declining trend in main work involvement indicates the inability of the farm sector to absorb people as full-time workers, either as cultivators or as agricultural labour.

Non-employability in the agricultural sector:

Compared to the extent of absorption of workers in the agricultural sector as main and marginal workers, the sector cannot provide jobs for surplus labour in rural areas. The census data of 1991, 2001 and 2011 show that there has been a consistent increase in the percentage share of marginal workers as agricultural labours. As per the 2011 census, Karbi and Bodo domains have over 34 percent of marginal workers involved in agricultural labour. Among the Sonowal Kacharis, the percentage share is around 22 percent. It is also observed that the increase is more among the female workers compared to the male marginal workers. It may also indicate that in the tribal domain, commercial farming may be in increase. There has been an instance of establishing small tea gardens by tribal people, a labour-intensive domain.

However, while we look at agricultural labour as the main work involvement among these tribes, we see a far lesser percentage share across the tribes. Moreover, the change in percentage share is also negative among Sonowal Kacharis. It indicates the inability of the agricultural sector to engage labour for a longer duration. Another interesting observation is that the percentage share of female main workers has always been lesser than males across the tribes. This trend is totally opposite to the marginal agricultural labours as we have observed.

Shifting trends of rural economy from agriculture to other sectors:

Continuing with the argument that rural transformation is all about a change in livelihood, lifeways and more significant rural-urban linkage and dependency, it has been tried to see the trend of the shift of traditional pattern of livelihood to other forms. For this purpose, the census data on specific tribal groups regarding their involvement in non-farm activities as an alternative livelihood has been inquired. It has been assumed that a decline in the involvement of main workers in the agricultural sector will increase main workers in non-farm sectors like Household Industries and Other sectors. Both home-based Household industries and such industries outside household premises have been clubbed together. Similarly, activities like service-related, wholesale and retail business, transport and communication, and many more were clubbed within the other industrial sector.

The data shows that transport and communication, retail sales and petty trade and business, service sector, weaving and manufacturing of local products have gained popularity in the tribal domain in the last two decades. Tribal people are seen engaged in some entrepreneurial activities with local technical know-how. The Census data reflects such observations. However, data reveal that the involvement of tribal people in Household Industries is not encouraging. It is more so in the case of the marginal Household Industry sector. Although there is a very trivial increase in the percentage share of workers in the sector, this increase is insignificant relative to the overall percentage share of workers in marginal work.

Gender-specific involvement as main workers among the studied tribes

There is a steady decline in the percentage share of women main workers across the tribal groups. It has been noticed that the main cultivators constitute a significant part of the main workers among women. There is lesser evidence of the increase of women main workers in other sectors. Thus, the data indicate that decreased involvement of people in cultivation as the main work leads to a decrease in women's share in the main work category. It also indicates that tribal women have lesser access or opportunity to diversify their livelihood to be recorded in the census operations.

Census data shows that between the 1991 and 2011 census years, there is an increase of Karbi male main workers by nearly 10 per cent, whereas the percentage share of female main workers among the Karbis has gone down by 10 per cent, from 35.34 per cent to 25.15 per cent. In the Bodo domain, we do not see any sharp decline or increase in the main work category for males or females. The percentage share of males in the main work category is three-fold greater than the females among the Bodos, and this trend remains almost constant throughout the census years. Among the Sonowal Kacharis, we can see a nearly 7 per cent increase in male main workers and a corresponding 7 per cent decrease in female main workers. A decrease in the percentage share of main cultivators among the Sonowal Kacharis is evident from the census data. However, we hardly see a corresponding increase in female participation in main works in other sectors on an equal tone.

V. CONCLUSION

The growth of industrialisation and major development projects are almost absent in the tribal domains in Assam. The landlessness among the tribal people has emerged a century back due to the award of land tenure to the Tea planters and the state's taking control of forest lands. Further, frequent floods and an increase in wetland due to natural calamities have arrested the expedition of tribal people to bring land under cultivation. Thus we see tribal people mostly as smallholder cultivators. There is also a limited dependency of tribal people on forest resources in that they are mostly wet-rice cultivators in reclaimed and processed lands. Thus, the literature or research findings regarding the tribal people of mainland India or in hill areas of the North east region do not find a similarity for discussion. However, in the last decade, the tribal domain has experienced rapid infrastructure development like roads, bridges and transport facilities. Semi-urban localities have been emerging in areas otherwise were inaccessible to market. Thus, there have been opportunities for off-farm activities all around.

Nevertheless, field studies have shown that the declining involvement of people in the agricultural sector has not been significantly reflected in the involvement in the manufacturing and service sectors. There is also no significant improvement in agricultural productivity in the tribal domain over the years. The agricultural sector in tribal domains remains traditional in nature for want of investment and institutional credit and marketing system in place.

VI. RECOMMENDATIONS

Since the state has all the conditions favourable to develop agriculture competent to the changing situations in the state, with the following intervention, a fruitful growth can be achieved:

- i) The institutional credit system should be extended to all tribal villages so that farmers can invest in fertilisers, labour and machinery.
- ii) Since the state is flood-prone, more emphasis should be given to cultivation during the dry season, for which a proper irrigation system must be installed there.
- iii) Since the smallholding of land is a problem in productivity and investment, several smallholders may come together to cultivate jointly using machinery, labour and fertiliser where required.
- iv) Crop diversification may also work to mitigate natural and human risk factors.
- v) Storage and marketing have been two issues in the agricultural domain that can be resolved with Public-Private Partnership initiatives.
- vi) Mixed farming with scientific methods may also be encouraged in the tribal domain since there is a demand for fish and meat of various kinds.
- vii) A loss mitigation mechanism must be in place since the state is prone to several natural risk factors.

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C.J. SONOWAL. "Changing Trends in Livelihood in Tribal Domain of Assam An analysis of Census data." *International Journal of Humanities and Social Science Invention (IJHSSI)*, vol. 11(04), 2022, pp 65-77. Journal DOI- 10.35629/7722