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**Economic, Occupational
and Livelihood Changes
of Scheduled Tribes of
North East India**

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ECONOMIC, OCCUPATIONAL AND LIVELIHOOD CHANGES OF SCHEDULED TRIBES OF NORTH EAST INDIA

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Abstract

The paper examines the changing livelihood system from agriculture-based towards non-agricultural-based system of Scheduled Tribes (STs) of North Eastern Region. Agricultural households continue to be prominent; however, non-agricultural households are growing in rural areas. In urban areas, non-agricultural households are rapidly growing. However, agriculture, shifting cultivation in particular, continues to be a prominent means of livelihood for some of them. Concerning employment, agriculture employment has declined largely due to the significant decline among cultivators. Employment in non-agriculture sector has improved largely driven by development, particularly education. ST's means of livelihood has converged from subsistence agricultural income towards diversified modern market-oriented employment and economy. It portrays the convergence of the livelihood system from agriculture to non-agriculture. It is evident from three facts as follows: decline of agricultural households while non-agricultural households increase; decline of agricultural income while non-agricultural income rises; and shift of employment from agricultural to non-agricultural activities.

Introduction

Scheduled Tribes (STs) predominantly live in the hills of North Eastern Region (NER)¹ depending on agriculture as their main source of livelihood and income. They are considered to be socially disadvantaged and economically underdeveloped people. They comprise of about 27 percent of the entire NER's population.² Arunachal Pradesh (Ar.P), Meghalaya, Mizoram and Nagaland, among the NE states, are ST population-dominated states with over two-third of each state's total population. A transition of their livelihood system from agricultural to non-agricultural pursuits is evident. They share several common disadvantages including geographical isolation, underdevelopment, economic deprivation, illiteracy, impoverishment, indebtedness and less access to assets and public services (Hanumantha & Grover, 1979). They have traditionally lived mainly in forests, hills and undulating inaccessible terrain in plateau areas that have rich natural resources (Ministry of Tribal Affairs, 2013). They have been at the 'lower end in all indicators of living conditions and household assets' (Bhagat, 2013:64) mainly due to the government's adoption of unbalanced development programmes.

Nevertheless, generalisation of STs across India would be erroneous due to differences in development outcomes, such as, education, health, income across the Indian states. Chaube (1999) cautions that STs of India are heterogeneous groups. Hence, common definition of tribe or tribal does not exist because of the difference in the social, economic and administrative structures, customary norms, value system, geographical isolation and underdevelopment nature. Tribal is a way of living or

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living system (Sikidar, 1990). Tribal societies are organised according to cultural principles and tribes are distinguished from one another by kinship and lineage but not by occupation (Corbridge, 1988). On the contrary, Indian occupational system is deeply rooted in the Hindu caste system (Horan, 1974). ST people do not have traditional social hierarchy that exists in Hindu social or caste hierarchy (Sundaram and Tendulkar, 2003; Bhagat, 2013). They are, however, a marginalised class (Roy, 1989) and are relatively deprived with respect to non-tribal people in many aspects (Srivastava, 2008). Their social and economic underdevelopment is due to habitation in geographically isolated areas at rough terrain and practise of shifting or jhum cultivation for their livelihood (Sundaram and Tendulkar, 2003). Shifting cultivation was the major means for their livelihood (Christoph, 1982; Kumar & Ramakrishnan, 1990; Nongbri, 1999; Sundaram and Tendulkar, 2003; Sengupta, 2013). In recent times, however, their means of livelihood has increasingly shifted towards non-agricultural activities (Marchang, 2016). Against this backdrop, the paper examines the gradually changing economic, occupational and livelihood conditions towards non-agriculture for the STs of the region.

North Eastern Region: Background

NER of India, that comprises of the state of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, is in a strategic geographical location for economic, political, cultural, traditional and national security. It is located in the remote area having a common international boundary with Bangladesh, Bhutan, China, Myanmar and Nepal. About 70 percent of the geographical area of the NER is hilly and mountainous (Maithani, 1991). The region covers 7.98 per cent of India's geographical area. Moreover, in 2011, NER's (excluding Arunachal Pradesh²) urban areas comprised of 1.67 percent, against India's 3.11 percent. On the contrary, rural areas predominates the geographical areas in NER as in the country.

All NE states have different administrative structures due to the differences in the population profile (SC, ST and others), customary laws, traditions, etc. Scheduled population, particularly STs, has distinct administrative settings and provisions guaranteed by the Constitution of India. Indian Constitution has clearly specified in Article 244 (1 and 2) about the administration of Scheduled Areas and Tribal Areas (Chaturvedi, 2007).

NER is one of the most ethnically and linguistically diverse regions in Asia with distinct cultures and traditions in each state. The people of NER is composed of various racial stocks namely Mongoloids, Indo-Aryan, Austric (Australoids) and Dravidians (Dikshit and Dikshit, 2014; Gajrani, 2004). Mongoloids were the original settlers in the region (Dikshit and Dikshit, 2014); and the rest migrated later. In the NE, STs comprised of 27.29 percent of the total population in 2011.

NER is endowed abundantly with different natural resources such as land, water, forest and minerals.³ Each NE state has a unique nature of resources endowment which makes each one a unique economy. The volume of the available mineral resources and mineral production (excluding atomic minerals) is enormous but varies across NE states.⁴

A naturally endowed land in rural NE is 'largely owned by the community and the incidence of landlessness is negligible' (Maithani, 1991:59). In the NE, an 'individual ownership of land is recognised in certain areas usually confined to homestead and settled farm land' (Sachchidananda, 1989:37). There

is no uniform land tenure system across the tribes in the region (Marchang, 2016)⁵. Some ethnic groups or villages follow community, clan or kinship and private or individual land ownership systems. Gradually, private ownership of land has emerged in the hills (Maithani, 2005).

According to Marchang (2016) concerning the agricultural land use, the shares of net area sown to the geographical areas is very low in the region when compared with the national level. For example, in 2011/12, the share of net area sown was 17 percent in NER against 43 percent for India. The shares of net area sown is highest in Assam followed by Tripura, Nagaland etc and the least in the state of Arunachal Pradesh. It differs depending on the population density; but not depending on social structure.

The hill people, categorised as Scheduled Tribes (STs) by the Government of India, living in the NE greatly depend on land and forest for their livelihood through agriculture, food gathering and hunting. Jhum or shifting cultivation has been practised as a way of life within the tribal communities and hill people from time immemorial (Peale, 1874; Seavoy, 1973; Eden, 1993; Gupta, 2000). Such cultivation system involves clearing a patch of forest by felling and burning bushes and trees and then cultivating this land for one or more years before abandoning it for rejuvenation in favour of other patches. Shifting cultivation is the most economical method because it produces the highest net returns (Shimray, 2004); However, policymakers, governments and analysts have often assumed that it is universally unsustainable and causes destruction of forest and wildlife (Kerkhoff and Sharma, 2006)

Roy, Xavier and William (2012) noted that ILO Convention No.169 Article No.14 specifically recognised the rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy, including the rights of shifting cultivators. Further, ILO Convention No.107 safeguards land and resource rights of the indigenous people. ILO Convention No.111 guaranteed that shifting cultivators may exercise the right to practice a traditional occupation. Moreover, the United Nations Declaration on the Rights of Indigenous Peoples recognises several rights for the communities practising shifting cultivation.

Agriculture output in NER is not up to the mark as it contributes only three percent each in India's total agricultural area and production for food grains at present (Marchang, 2016). The region is not adequately producing foodgrains, especially rice, which is the staple food and principal crop (Sachdeva, 2000). The per capita consumption of foodgrains (cereals and pulses) per annum is approximately 197 kgs in Manipur as per the DES (2014). Applying the same to other NE states, as well as India, shows that all the NE states, except a few states such as Arunachal Pradesh and Sikkim in 1990/91 and Arunachal Pradesh, Manipur and Nagaland in 2010/11, faced a shortage of foodgrains availability (Marchang, 2016 and 2017a). In general NER's foodgrains production is inadequate to meet the requirements of the people in the region. The per capita foodgrain production or availability in the region is 165 kgs in 2010/11 which has increased from 156 kgs in 2000/01 and about 157 kgs in 1990/91. The per capita production of foodgrain increased only for the NE states of Assam, Manipur, Meghalaya, Mizoram and Nagaland during 1990/91 to 2000/01. Similarly, it increased for Arunachal Pradesh, Manipur, Nagaland and Tripura among the NE states following NER's and India's trends during 2000/01 to 2010/11.

Marchang (2016 and 2019) established that the industrial prevalence in the region has less than two percent of India's total factories which is also concentrated in the big and populous state of Assam. Except Assam, NE states have a scanty distribution of limited factories. As such, industrialisation remains underdeveloped in most of the NE states. However, industrial output has increased in terms of value per factory and worker due to technological advancement and improvement in human capital which signifies the improvement of potential of the industries. Industrialisation is relatively poor and backward as the population per factory for the region is far lower than the national level. Thus, it has failed to take off. It calls forth for immediate policies and programmes intervention by the government for industrial development by government investment on infrastructure and industrial development, and encouraging private investors by way of providing, safeguarding and arranging a peaceful industrial environment, solving the political problems, controlling the law and order situation, solving social conflicts, among others. Promotion and creation of Special Economic Zones is the immediate requirement towards industrial development in the region.

Data Sources and Methodology

The study attempts to produce and include both qualitative and quantitative results and analyses descriptively emphasising on means of livelihood of STs of NER. It is based on recent secondary data from NSSO, Census and CSO; and primary field surveys. Based on these secondary data the patterns and trends of livelihood system emphasising on economic groups, economic structure and employment structure of STs of NER are examined. Additionally, primary data, i.e. detail socio-economic profile including livelihood means, were collected by randomly drawing 170 households from the randomly chosen state of Manipur (among NE states) through field survey during March to August 2014 to exhibit the livelihood status of STs.⁶ Manipur has the characteristics of NER because of its population structure (where ST, SC, OBC and others are present) and economic condition. Sample were drawn from all the five hill districts namely Chandel (14 households), Churachandpur (4), Senapati (91), Tamenglong (6) and Ukhrul (23) districts where different Scheduled Tribes population predominated and; three valley districts such as Imphal East, Imphal West (30) and Thoubal (2) districts where STs population are sparing scattered in Manipur. Samples were randomly drawn from different proximity to urban centres of these districts. Sample from Senapati district was largest because the district is inhabited by many recognised STs of Manipur including the Nagas like Mao, Maram, Poumei, Tangkhul, Thangal, Zeliangrong etc and the Kukis. Thus, 170 respondents, who know the details of each of their household members, were interviewed using a semi-structured household questionnaire. The results of secondary data is strengthened and validated by the results of primary data to a certain extent.

Economic Groups

NSSO data classify households in rural and urban areas separately depending on the sources of income. Household type is an economic grouping (Sundaram and Tendulkar, 2003). According to NSSO (2015) household type classification is based on the major sources of the household's income or livelihood during the last one year preceding the date of survey. Only the net income from economic activities was considered to determine the household's income. In rural areas, the households were classified into

self-employed in agriculture, self-employed in non-agriculture, rural labour in agriculture, others (non-agricultural) rural labour and category others until 2009-10. Till 2009-10, the category others rural households include households with regular wage/salary. In 2011-12 rural household whose major source of income was from regular wage/salary was separated from category others. As per Sundaram and Tendulkar (2003), land is the major capital and source of livelihood for self-employed in agriculture household. The major source of livelihood for self-employed in non-agriculture household is the deployment of non-agricultural physical or human capital assets in the production process. Means of livelihood for agricultural rural labour households depends on their endowments of abundant manual labour. In case of other (than agricultural) category of rural labour household the non-agricultural manufacturing or service activities on non-contractual casual basis constituted the main source of livelihood. Category others households include both households whose major source of income arises mostly from contractual employment with regular wages and salaries and who earn their living from non-labour assets without direct participation in gainful economic activity. Non-participatory earnings from non-labour assets include current returns from ownership of immovable assets from land or real estate, returns from past financial investments, and receipts from public or private transfers (including pension and remittances).

As presented in Table 1, in rural areas majority of the ST households were classified as self-employed in agriculture and non-agriculture for all the NE states excepting Tripura. In Tripura 45 percent of households were self-employed in agriculture and non-agriculture households in 2011-12. The shares of self-employed households were much higher for all the NE states, excepting the state of Tripura, when compared to the national level. It is because a large share of the country's rural households, unlike in NE, were rural labour households. The share of rural labour households was smaller in all the NE states, excepting Tripura, especially in the ST dominated states like Arunachal Pradesh, Mizoram and Nagaland. The share of rural labour households was low in Manipur—the ST minority state. Interestingly, the share of others (including wage/salary) category of households was greater for NE states, excepting Assam, when compared with the same for India in 1999-2000. Similar was the situation in 2011-12.

Expectedly, the size of agricultural households (combining both self-employed in agriculture and agricultural labour) has declined in all the NE states following the national trend; except Ar.P, Mizoram and Sikkim where it has marginally grown. The share of rural labour i.e. agriculture rural labour and other rural labour households have declined for all the NE states, except Meghalaya, following the national trend during 1999-2000 to 2011-12. The share of others (including wage/salary) category of households have declined for Arunachal Pradesh, Mizoram, Nagaland, Sikkim and Tripura against the increasing trend for the country as well as Assam, Manipur and Meghalaya during the same period. A significant share of the NE rural households were regular wage/salary households ranging from four percent in Assam to about 24 percent in Sikkim against six percent of India in 2011-12. Wage and salary household contributed most of the other category households.

It indicates a change in economic pursuit from agriculture to non-agricultural activities for most of the NE states.⁷ However, some of agriculturist might be unemployed due to lack of skill and knowledge for non-agricultural job. It is evident from NSSO (2014) that unemployment problem in rural

areas is alarming in most of the NE states – Arunachal Pradesh (1.8 percent), Assam (5.0), Manipur (3.9), Meghalaya (0.5), Mizoram (2.6), Nagaland (24.7), Tripura (12.3) and Sikkim (1.0) – that have higher unemployment rate (usual principal status) when compared to the national average (2.3 percent) during 2011-12. The unavailability of non-agricultural employment or increase in cash crop farming may explain for those states that have experienced an increase in agricultural households. On the contrary, increase in availability of non-agricultural employment due to economic development and expansion of tertiary activities due to the expansion of organised employment (Table 2) explains the increase of non-agricultural households.

Table 1: Distribution (%) of household type of ST in rural/urban areas of NE states/India

State/ country	Year	Rural						Urban			
		Self Employed		Rural Labour		Regular wage/ salary	Other including wage/ salary	Self Employed	Wage/ Salaried	Casual Labour	Others
		Agri	Non- Agri	AL	OL						
Ar.P	1999-00	52.4	8.6	7.6	2.6	--	28.7	11.5	53.4	3.6	31.5
	2011-12	72.2	5.1	0.2	0.9	13.6	21.5	22.2	60.9	7.4	9.5
Assam	1999-00	63.4	7.1	11.7	9.7	--	8.1	20.0	40.7	5.2	34.1
	2011-12	52.6	21.9	10.3	5.2	4.4	9.9	41.2	43.7	0.7	14.4
Manipur	1999-00	77.8	3.7	4.4	1.9	--	12.3	29.3	20.7	7.5	42.5
	2011-12	53.2	19.4	2.7	1.3	21.2	23.4	54.3	23.3	3.3	19.2
Meghalaya	1999-00	69.3	5.6	10.2	4.1	--	10.3	17.3	48.7	13.5	20.0
	2011-12	43.9	20.7	11.2	5.2	15.3	19.0	25.2	45.5	13.2	16.1
Mizoram	1999-00	61.6	5.5	5.9	2.9	--	24.2	36.8	42.5	12.2	8.2
	2011-12	69.8	10.8	0.0	2.7	15.3	16.7	34.8	52.0	7.2	5.9
Nagaland	1999-00	59.4	1.9	3.7	12.0	--	32.9	7.0	67.1	0.4	25.5
	2011-12	57.8	12.3	0.0	0.4	21.8	29.5	22.3	64.3	1.9	11.5
Sikkim	1999-00	49.4	1.9	3.7	12.0	--	32.9	18.4	58.0	6.3	17.4
	2011-12	56.9	8.5	0.0	7.4	23.6	27.1	39.4	35.7	0.0	24.9
Tripura	1999-00	23.6	8.3	28.6	15.6	--	23.9	4.7	80.3	0.0	15.0
	2011-12	29.6	15.7	5.3	35.1	6.7	13.8	12.2	39.7	0.9	47.2
India	1999-00	36.2	5.2	39.7	8.9	--	10.1	21.6	38.0	25.6	14.7
	2011-12	41.4	8.1	24.5	13.9	6.3	12.2	19.5	46.5	18.0	16.0

Notes: AL – agriculture labour, OL – other labour. Agri – agriculture. Figures given per 1000 in NSSO Reports are converted into percentage. -- Not available. Rural household category such as regular wage/salary was added only in 2011-12.

Source: NSSO (2001 and 2015).

In urban areas, households were classified as self-employed, wage or salaried, casual labour and others. Sundaram and Tendulkar (2003) remarked that the self-employed households, including agricultural, is a heterogeneous groups that ranges from low income unskilled low productivity trading and personal services with meagre physical or human capital to high income professionals earning their incomes from high skills and education. Further, the category others include households whose major source of income is derived from non-participatory earnings from non-labour assets.

Table 2: Employment in organised sector in NER/India

State/ region/ country	Sector	2002		2012		Change (%)
		(No. lakh)	Distribution (%)	(No. lakh)	Distribution (%)	2002-2012
Assam	Public	5.26	49.4	5.38	48.0	2.3
	Private	5.38	50.6	5.82	52.0	8.1
	Total	10.64	100.0	11.20	100.0	5.3
Manipur	Public	0.80	96.7	0.76	96.2	-5.1
	Private	0.03	3.3	0.03	3.8	11.1
	Total	0.83	100.0	0.79	100.0	-4.6
Meghalaya	Public	0.73	88.6	0.56	88.9	-22.9
	Private	0.09	11.4	0.07	11.1	-24.7
	Total	0.82	100.0	0.63	100.0	-23.1
Mizoram	Public	0.40	97.8	0.12	92.3	-70.1
	Private	0.01	3.4	0.01	7.7	-28.6
	Total	0.41	100.0	0.13	100.0	-68.3
Nagaland	Public	0.74	96.0	0.74	93.7	-0.3
	Private	0.03	4.1	0.05	6.3	56.3
	Total	0.77	100.0	0.79	100.0	2.2
Tripura	Public	1.10	89.5	1.45	96.0	31.3
	Private	0.13	10.5	0.06	4.0	-53.5
	Total	1.23	100.0	1.51	100.0	22.5
NER	Public	9.03	61.4	9.01	59.9	-0.2
	Private	5.68	38.6	6.04	40.1	6.4
	Total	14.70	100.0	15.05	100.0	2.4
India	Public	187.73	69.0	176.09	59.5	-6.2
	Private	84.32	31.0	119.70	40.5	42.0
	Total	272.06	100.0	295.79	100.0	8.7

Notes: 'Employment Market Information Programme is being implemented in all the States and Union Territories of the country except Arunachal Pradesh, Sikkim, Dadra & Nagar Haveli and Lakshadweep. The programme could not be extended to these States/UTs so far due to administrative reasons' (Ministry of Labour and Employment, 2015:2). NER excludes Arunachal Pradesh and Sikkim. India excludes those four States/UTs.

Sources: <http://www.indiastat.com> (2015) and Ministry of Labour and Employment (2015).

The share of self-employed households in urban areas was much lower than in rural areas. For ST, it is also the regular wage/salaried households which form the largest share of urban households for all the NE states, except particularly Manipur, and the country in all the years (Table 1). The share of self-employed households was very significant in the state of Manipur. For example, in 2011-12, about 54 percent of the urban households in Manipur were self-employed households signalling a low generation of salaried employment in the state. Strikingly, in 2011-12, almost all NE states have a higher share of self-employed households (including agricultural households) in comparison with India which partially means that NE states have higher dependency on agriculture and other avenues for self-employment when compared to the country's share in urban areas. This may have resulted in a lower

economic and per capita income growth rates in the region when compared to the national average. The economic and per capita income growth rates were slower in the region than in the country (Marchang, 2016 and 2019). The increased share of self-employed in rural and urban areas of the region is not encouraging for its economy and people. Further, in urban areas, Manipur ranked the least in wage/salaried households with 23 percent, against the top-ranked state Nagaland with about 64 percent, in 2011-12.

During 1999-00 to 2011-12 the self-employed households have also increased in all the NE states, except Mizoram, following the national trend. Strikingly, casual labour households continue to be lower in all the NE states than the country's level. Meghalaya has a relatively higher share of casual labour urban households when compared with the other NE states. Mizoram has the least share of other category of urban households in comparison with the rest NE states and the country's level in all the years. During 1999-2000 to 2011-12, the share of casual labour households have declined for all the NE states, except Arunachal Pradesh and Nagaland, as in India. The regular wage/salaried households have increased only in Arunachal Pradesh, Assam, Manipur and Mizoram among the NE states following the national trend. Moreover, the others category of urban households have increased only in Sikkim and Tripura among the NE states following the national trend.

Economic Structure

The economy of NER is 'underdeveloped agrarian societies with very weak industrial sectors and inflated service sectors' (Sachdeva, 2000:13). Its 'slow pace of urbanisation and extremely lethargic and distorted process of industrialisation have failed to generate alternative means of livelihood for the surplus manpower of the agricultural sector' (Hussain, 2004:4516). Nevertheless, its economy⁸, also entire NE states irrespective of ST or non-ST population dominated states, has gradually changed from predominant agrarian economy towards industrial and service economy. Concurrently, the region has food deficit as mentioned earlier. The changing economic structure coincides with its employment structure converging towards non-agricultural sector. This change is caused by educational development, nature of employment, economic growth and development, improvement in technology among others. In 2011-12, the income contribution from agriculture and allied, industry and services was 23, 23 and 54 percent respectively for NER (Table 3). Marchang (2016) highlighted that income from construction is the major source of income for industry sector; while income from transport, storage and communication, trade, hotels and restaurants, public administration and other services formed the main source of service sector income. Importantly, income from the entire sub-service sector contribution to the region's income has increased, except for the real estate etc, over the years.

Table 3: Share (%) of income (real NSDP at factor cost) in NER

States/ Region	Agr and Allied		Industry		Services	
	2000-01	2011-12	2000-01	2011-12	2000-01	2011-12
Ar. P	35.7	30.1	18.2	30.3	46.1	39.7
Assam	35.9	22.9	16.1	19.3	47.9	57.9
Manipur	31.2	26.3	19.9	33.3	48.8	40.4
Meghalaya	23.8	16.6	22.7	28.8	53.6	54.6
Mizoram	21.1	20.1	14.8	19.2	64.1	60.7
Nagaland	32.9	29.1	12.6	15.8	54.5	55.1
Sikkim	22.7	8.7	22.1	58.1	55.2	33.2
Tripura	25.7	23.9	20.9	24.2	53.5	51.9
NER	33.1	22.8	17.1	22.9	49.8	54.3

Source: Author's calculation based on CSO (2013) and Marchang (2016).

This pattern and trend can be reason with various associating factors. The decline of agricultural income is attributed by the decline in the per capita availability of land, especially agricultural land and agricultural employment apart from low production and productivity due to low use of improved seeds and other improved inputs and modern agricultural technology. This results to a shortage of foodgrains in the region that forces to import it from the rest of the country to meet the requirement. In order to meet this deficit, the region imports food grains from the rest of India (Hussain, 2004; Husain, 2006). It can be contextualised with the practice of shifting cultivation in the hills with low productivity, especially subsistence production, and slow progress of modern methods of agriculture in the valleys of Assam and Manipur that are non-ST dominated states.

Marchang (2016) shows that increase in density of workers in agriculture exhibits surplus labour. It lowers productivity and creates disguised unemployment and underemployment. It is expected that the surplus rural labours migrate towards industrial or urbanised areas to take up non-agricultural employment. However, all the surplus labour from agriculture sector is not absorbed in the industrial sector as the pace of industrialisation or non-farm employment growth is slow. Inadequate investment in the growth of infrastructure is held responsible for the sluggish growth of industries in the region.⁹ Marchang (2016) asserts that income from service sector increases with an increase in participation of private players in the market and improvement in productivity due to advances in technology. Moreover, income increases despite the downsizing of the organised sector employment in the government machinery in the post-economic reform period, which witnessed privatisation of the public sector and downsizing of the organised sector employment (see Table 2). Table 2 shows that government remains the main employer at declining rate for organised jobs. However, private sector also increasingly contributes organised employment. Interestingly, with the change in economic structure the real per capita income has also increased from Rs.1,647 in 1990-91 to Rs.13,146 in 2000-01 and further rose to Rs.27,562 in 2011-12 in NER as against India's Rs.2,213 in 1990-91, Rs.16,688 in 2000-01 and Rs.38,037 in 2011-12 (Marchang, 2016). It remains lower at increasing rate for the region than the country's average due to underdevelopment, underdeveloped industrialisation, low productivity, high population growth among others despite higher educational growth in the region. It indicates that India's economic success hardly trickled down to the region. Goswami (1984) suggested

that persistent rise in per capita income in real terms emanating from increased domestic factor productivity without accentuating economic disparities will bring tribal development in NER. This must be achieved while minimising the adverse effects on future resource availability and ecology and without jeopardising ethnic identity. Lopsided progress in one sphere is often at the expense of progress of others that is disastrous particularly for the STs. Therefore, development of STs is envisaged foremost and crucial for the region's overall development. Additionally, acceleration of income and economic growth depends on investment and level of education (Vaizey, 1967; Stevens and Weale, 2003).

Changes in Occupational Structure and Livelihood

Occupational changes or mobility usually examine the occupational changes from fathers to their children, particularly son, considering the occupational prestige (Horan, 1974). It is typically an inter-generational occupational change. This section examines the occupational changes over a period of time which may be inferred as inter-generational occupational changes. In North East India the indigenous people's livelihood means is agriculture and most of them derive their income partly from cultivation and partly from gathering of forest products and engaging in other activities (Roy, 1989). Land is important and indispensable resource for the livelihood of indigenous people. As such land and forest are fundamental factors for agrarian economy for STs of NER (Nongbri, 1999). Based on it, shifting cultivation has been practised prominently as a way of life within the tribal communities and hill people from time immemorial (Peale, 1874; Seavoy, 1973; Gupta, 2000); however, all the tribes did not practise it (Corbridge, 1988). The practice occupies a distinct place in the tribal economy and constitutes a vital part of their livelihood means, lifestyle and socio-economic set-up and is deeply rooted with indigenous ethnic culture (MEF & GBPIHED, 2009; Roy, Xavier & William, 2012). It is the primary means of livelihood for hill people of the NE states (Thangchungnunga, 1987; Reddy, 1991; Shimray, 2004). Marchang (2016) found that among the ST agriculturists, shifting cultivation is widely practised; but expectedly the estimated share of shifting cultivation families has declined in recent time. It continues to be more prominent in ST dominated states. However, the area under shifting cultivation is half an hectare per family which is very small as the cultivation is labour intensive. Average area per shifting cultivation family under shifting cultivation was the highest among the ST dominated states like Arunachal Pradesh, Mizoram and Nagaland. Sikkim is the only NE state which does not practise shifting cultivation.

Practice of shifting cultivation would be difficult to eradicate unless alternative means of livelihood is available. In Tripura, alternative means of livelihood such as rubber plantation, horticulture, animal husbandry, dairy and poultry farming were initiated for shifting cultivators (Kumar, 1987). Many such schemes and programmes have been implemented in the past to control shifting cultivation (Maithani, 1991); however, the practice remains widespread basically due to hilly land topographical condition (Saikia, 1991). The pressure on shifting agricultural land has sharply increased as cultivation areas fall with a simultaneous increase of its cultivators.¹⁰ It occurs despite the fact that the land is owned and controlled by private individuals and community as a whole.

Majority of the ST people continue to depend on underdeveloped traditional shifting agriculture for their livelihood that results to low productivity in comparison with wet land agricultural production. For example, the jhum foodgrains productivity is only 1050 kg/ha in 2014-15 in Tripura (DES, 2015) as compared to overall foodgrains productivity of 2620 kg/ha in 2011-12 (Department of Agriculture and Co-operation, 2015). As such, under shifting cultivation in particular, the concept of surplus for trade hardly arises as the economy is self-subsistence (Das, 2006). Thus, generally, agricultural or food production is inadequate to meet the region's requirements (Sachdeva, 2000; Hussain, 2004; Husain, 2006; Marchang, 2016). It is clear that agricultural production is not even sufficient to be called subsistence because the region contributes only three percent to India's foodgrains production (Marchang, 2016) against the region's population and geographical area contribution of 3.8 percent and of 8.0 percent respectively in 2011.

The livelihood system of ST people and their economy are gradually integrating and orienting towards the mainstream market economy. For example, in Tripura, cultivation system has changed from shifting cultivation to capital intensive settled cultivation and agricultural produce system has changed from family consumption production to commercialisation (Sengupta, 2013). Interestingly, most of the ST families have multiple sources of livelihood (Nongbri, 1999) and, their economic activities have been diversified into different occupations (Corbridge, 1988). Moreover, education has driven them, particularly the younger generation, for wage employment specifically for organised employment (Marchang, 2016) which indicates an upward occupational mobility in terms of stable salaried income and some social gains in terms of prestige and status of being a salaried person. Labour mobility from rural areas, as well as semi-urban areas, comprising of unskilled and semi-skilled labours to urban areas where non-agricultural economic opportunities, associated with some status or prestige are available is evident among the ST population. Similar is the situation where Foote and Hatt (1953) concluded that occupational movement was toward the jobs of higher prestige.

Employment structure has changed from agriculture sector orienting towards non agriculture sector with the changes in specialisation, technology, education and economy among others. Education is a major determining factor for a change in employment structure. As such, individuals treated education as a business proposition with all those investing in education wishing returns on it (Shingi and Visaria, 1988). Education is a pre-condition of economic growth (Vaizey, 1967) and investments on it affect economic growth and individuals' incomes (Aghion, Boustan, Hoxby and Vandenbussche, 2009). Moreover, the educated seek a specific and sensible job (Callaway and Bettenhausen, 1973; Gumber, 2000), and seek some highly-preferred white collar salaried jobs (Shingi and Visaria, 1988) or prefer wage employment in the organised sector (Azad, 1991; Visaria, 1998; Parthasarathy and Nirmala, 2000). Hence, people's desire to engage in non-agricultural employment rises with the development of education.

The employment cross classified by broad industry as cultivators, agricultural labourers, household manufacturing and other workers in rural and urban areas among the STs of NE states and the country is presented in Table 4. A large section of the workers still depends on informal sector, especially in agriculture. As Papola (1981) already noted the size of the informal sector remains large in the region due to underdeveloped industrialisation. Agriculture remains the predominant avenue of

employment and source of income for rural people in particular in NER, as in the country. This corroborates with the household type or economic group condition as discussed earlier. The share of cultivators was much larger in the region than in India perhaps determined by the difference in the land holdings and its ownership system in the hill areas of NER and the ST areas of the country. STs are ruled by certain distinct characteristics ranging from community land holding system to access to land. Since land in rural areas of NE is largely owned by the community and some by individuals (Maithani, 1991; Maithani, 2005; Sachchidananda, 1989) the incidence of landlessness is negligible (Maithani, 1991). Nevertheless, there is no uniform land tenure system across the tribes in the region (Marchang, 2016).

Using NSSO (2001 and 2015) data on land holdings and land cultivated areas, Marchang (2016) shows that land is underutilised for agricultural purpose in the region when compared to the national level. The size of land holdings, which determines the agricultural intensity and agricultural income among the ST households, are small and medium in size that is perhaps a private or individual land. The size of land holdings varies across the NE states. ST dominated states like Arunachal Pradesh and Nagaland have a larger proportion of households holding relatively bigger size of land of above two hectares per household. Marchang (2016 and 2017a) showed that in NE a large share of the households cultivated a small size of land which resulted to low per capita agricultural production and subsistence production.

In India, majority of agricultural labourers (AL) are drawn from the Scheduled Castes and Tribes (Sethi, 1984). This is delusive for the region as the share of AL is abysmally low in NER than in India. The situation is likely because of the prevailing unique land tenure system, particularly community land ownership, in the ST regions. Further, employment in household manufacturing industry (HMI) continues to be low in the region; however, slightly higher in the region than the country. Even the share of other workers remains larger in the region.

Table 4: Share (%) of workers (main + marginal) by industry for ST in NE states/NER/India

Area	State/region/country	Cultivators		AL		HHI		Other workers	
		2001	2011	2001	2011	2001	2011	2001	2011
Rural	Ar.P	81.5	74.4	2.4	4.5	1.2	1.3	15.0	19.8
	Assam	69.7	61.6	11.9	15.7	3.7	3.9	14.7	18.8
	Manipur	66.9	67.2	7.5	7.4	5.7	3.4	19.9	22.0
	Meghalaya	58.8	52.5	20.1	20.1	2.2	1.9	18.8	25.6
	Mizoram	83.8	77.4	3.7	7.3	1.1	1.0	11.5	14.3
	Nagaland	77.0	71.3	3.7	6.6	2.5	2.1	16.7	19.9
	Sikkim	60.2	53.7	5.8	10.9	1.4	1.5	32.5	33.9
	Tripura	42.4	33.8	36.9	38.1	2.2	2.2	18.5	25.9
	NER	67.5	60.4	13.0	15.5	2.9	2.7	16.6	21.4
	India	47.1	36.9	38.4	47.1	2.1	1.7	12.5	14.3
Urban	Ar.P	11.4	7.7	1.9	2.2	1.4	1.6	85.3	88.5
	Assam	8.6	9.9	2.1	4.0	3.0	3.1	86.3	83.0
	Manipur	7.1	19.1	3.6	3.3	5.5	4.5	83.7	73.1
	Meghalaya	6.3	5.2	6.9	4.1	1.6	0.9	85.3	89.8
	Mizoram	25.3	17.2	8.7	10.1	2.1	2.2	63.9	70.5
	Nagaland	7.3	14.0	1.2	4.3	3.9	3.4	87.6	78.3
	Sikkim	0.2	1.8	0.3	2.1	1.0	1.4	98.4	94.7
	Tripura	1.7	6.2	2.6	11.0	0.9	1.1	94.8	81.8
	NER	15.0	12.1	5.9	5.9	2.3	2.3	76.7	79.6
	India	6.5	5.8	12.4	13.3	2.9	2.5	78.2	78.3
Total	Ar.P	75.0	66.1	2.3	4.2	1.2	1.3	21.5	28.4
	Assam	67.7	59.3	11.6	15.2	3.7	3.8	17.0	21.7
	Manipur	64.9	62.6	7.4	7.0	5.7	3.5	22.0	26.9
	Meghalaya	52.9	46.0	18.6	17.9	2.1	1.7	26.4	34.4
	Mizoram	58.1	49.4	5.9	8.6	1.5	1.6	34.5	40.4
	Nagaland	71.4	61.9	3.5	6.2	2.6	2.3	22.4	29.5
	Sikkim	56.1	45.7	5.4	9.5	1.4	1.5	37.0	43.2
	Tripura	41.6	32.8	36.2	37.2	2.1	2.2	20.0	27.8
	NER	62.4	54.3	12.3	14.3	2.8	2.6	22.5	28.7
	India	44.7	34.5	36.9	44.5	2.1	1.8	16.3	19.2

Source: Author's calculation based on RGCCI (Table ST2 and ST4, 2001 and PCA, 2011).

Data shows that employment in agriculture sector is lower in the region than India (as a whole) or in other words non-agricultural employment is more prominent in the region than in the country (Table 4). In 2011, about 54 percent of the total workers in the region were engaged as cultivators, against the national average of about 35 percent. Employment in cultivation has declined as the share of cultivators decreased in the region, following the national trend, during 2001-2011. Over the years, the share of AL has increased slightly by about two percentage points in the region following the national trend of increase by about eight percentage points. The share of household of manufacturing industrial workers also declined notably. The share of 'other' category workers has

increased by about six percentage points in the region when it increases by about three percentage points in India during 2001-2011. This change in the structure of employment is a result of rapid structural changes in the economy. As Stewart (1987) concluded, rapid structural changes are accompanied by occupational transition in which employment shift from agriculture to non-agriculture urban pursuits, informal to formal sector and traditional to modern industries and services. A similar pattern and trend prevails for the NE states as well. In 2011, among the NE states, Arunachal Pradesh has the highest share of cultivators with about 66 percent followed by Manipur, Nagaland and so on and the least was in Tripura with about 33 percent. Arunachal Pradesh, Manipur and Nagaland were having a higher share of cultivators than the region in the same year. It was higher in all the NE states, except Tripura, when compared to the country average. The share of AL ranges between the lowest in Arunachal Pradesh with about four percent and the highest in Tripura with 37 percent. It was higher only in the state of Assam, Meghalaya and Tripura than the region. Interestingly, none of the NE states has a higher share of AL than the country with a share of about 45 percent.¹¹ It was significantly low among the ST dominated states such as Arunachal Pradesh, Mizoram and Nagaland. It is even low in the state of Manipur where a quarter of the population are ST and more than 90 percent of lands are owned by them.

Employment in the household manufacturing industry (HMI) was not very prominent in most of the NE states particularly Sikkim and ST dominated states like Arunachal Pradesh, Meghalaya and Mizoram. The share of workers in HMI was the lowest in Arunachal Pradesh with about one percent and highest in Assam with a share of close to four percent in 2011. Assam and Manipur were the two NE states which have a higher share of it than the region. It was higher in Assam, Manipur, Nagaland and Tripura when compared to the country's level of 1.8 percent in the same year. In case of employment in others category of work, the share ranges from about 22 percent in Assam to 43 percent in Sikkim. Meghalaya, Mizoram, Nagaland and Sikkim have a higher share of others category of workers when compared to the region's share of about 29 percent. Interestingly, its share was higher in all the NE states than India's share of about 19 percent.

Rural and urban comparison shows that, in general, the employment in rural areas was dominated by agriculture, i.e. both cultivators and AL taken together, while urban employment was dominated by non-agriculture in all the NE states and the region following the national trend in both years. Nevertheless, the means of livelihood has converged towards non-agricultural activities or employment as the level of education rapidly improves. Marchang (2016) using RGCCI i.e. Census of India (2011) and NSSO (2015) showed that literacy rates far exceed for NE states than the country's level among the ST. Also literacy rates are exceedingly higher for STs of NE states when compared with all-social groups of India. Under such circumstances, the quality of education and development of skill for employment is a concern. High literacy rate is transforming into higher employability and productivity through migration (Marchang, 2017b and 2018). High prevalence of unemployment rate in many NE states (NSSO, 2014) indicates simply a lack of job avenue rather than poor quality of education, inadequate skill development and un-employability. Sundaram and Tendulkar (2003) opined that lack of exposure to education and isolated habitation from social mainstream made STs vulnerable to exploitation by non-ST. It may not be the sole factor of such exploitation. The connotation of

geographical isolation appears because of the lack of developmental characteristics, such as roads, in the sparsely populated hilly region. The tribal people in the hills generally lack education, training, communication facilities, etc (Singh, 2007). This is partially incorrect because of the extent of educational development in NER. Both decennial censuses of India and NSSO data showed a rapid educational growth systematically for ST partly due to an increase of educational enrolment ratio (Marchang, 2016). It is also noteworthy that some tribes have transgressed to others educationally (Goswami, 1984). Similarly, among the Naga tribes of Manipur, the Tangkhuls who embraced Christianity first, outperformed in education than other tribes (Marchang, 2013).

The change in the structure of employment, and income, from agriculture to non-agriculture is attributed by the development of education and improvement of industrial sector (Marchang, 2016). Sengupta (1988) pointed out that inappropriate development strategies have not brought any relief to the STs. The STs have been uprooted in the course of industrial expansion and have been discriminated against in job opportunities. However, Singha (2011) asserts that in Manipur they have developed significantly due to the growth of English education imparted by Christian Missionaries.

Occupational Changes and Livelihood Status of Manipur

Analyses of primary field data from Manipur show that ST people owned largely an inherited land, especially in rural areas. They owned land in the hill slopes, terrace and in the plains. Some of them have land both in the hills and or terrace and or plains. Rural people largely own land for agricultural use. A very few households do not have land. It prevails among some of the Kuki tribes where citizenship and land is fully controlled, administered and managed by the village chief. Most of them are small land owners (less than one hectare per households).¹² Most of the agriculturists, as primary or secondary occupation, cultivated about one hectare, as a result, the agricultural produce is subsistence production. Urban people, and or, non-agricultural workers have been also pursuing agricultural activities as secondary source of income for their livelihood. Cultivation is predominant among the lower income households.

Primary field data result validates that ST people's means of livelihood have undergone a change as presented in Table 5 when compared to Table 1. Nevertheless, self-employment, particularly in agriculture activities, remains a prominent source of livelihood, especially in rural areas (Table 5). Self-employed include cultivators, farmers, carpenters, drivers, business persons (shopkeepers, vegetable vendors, entrepreneurs, local wine makers, etc), tailors, weavers, social workers and others. As much as 83 percent of the self-employed are cultivators and farmers. However, regular salaried employment is the main source of livelihood for majority of the urban people. Overall, most of the ST households depend on a non-salaried income. Cultivation, as secondary activity, is visible among the non-agriculturist households, such as regular salaried households. It appears that many households have a multiple or mixed source of income. The type of cultivation includes shifting, terrace and permanent. Also some households practise a combination of cultivation such as shifting and terrace or shifting and permanent or terrace and permanent.

Table 5: Household Type by Main Source of Income for ST of Manipur

Household type/ income source	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Self-employed in non-agriculture	20	13.9	5	19.2	25	14.7
Self-employed in agriculture	58	40.3	1	3.9	59	34.7
Agricultural labour	3	2.1	--	--	3	1.8
Casual labour	2	1.4	--	--	2	1.2
Regular wage/salary earning	51	35.4	18	69.2	69	40.6
Others	10	6.9	2	7.7	12	7.1
Total	144	100.0	26	100.0	170	100.0

Source: Filed Survey, Manipur, 2014.

Table 6: Distribution (%) of Source of Loan by Household Type for ST of Manipur

Household type	Source of loan								Total (No.)
	Govt.	co-operative society	Bank	employer/ landlord	agricultural/ professional money lender	shopkeeper/ trader	Relatives/ friends	Others	
Self-employed in non-agriculture	--		--	--	--	--	100.0	--	1
Self-employed in agriculture	--		25.0	--	--	--	75.0	--	4
Agricultural labour		--	--	--	--	--	--	--	--
Casual labour		--	--	--	--	--	--	--	--
Regular wage/salary earning	9.1		81.8	--	--	--	--	9.1	11
Others		--	--	--	--	--	--	--	--
Total	6.3		62.5	--	--	--	25.0	6.3	16

Source: Filed Survey, Manipur, 2014.

Table 7: Households Distribution (%) of Monthly Household Income/Expenditure by Household Type for ST of Manipur

Household type	Household Income/ Expenditure	Monthly Income/ Expenditure Range (Rs)							Total (HH. No.)
		≤ 5000	5001-10000	10001-15000	15001-20000	20001-25000	25001-30000	>30000	
Self-employed in non-agriculture	Income	16.0	28.0	20.0	12.0	4.0	8.0	12.0	25
	Expenditure	20.0	32.0	12.0	12.0	12.0	--	12.0	25
Self-employed in agriculture	Income	64.4	27.1	5.1	1.7	1.7	--	--	59
	Expenditure	64.4	27.1	5.1	1.7	1.7	--	--	59
Agricultural labour	Income	66.7	--	--	--	--	33.3	--	3
	Expenditure	66.7	--	--	--	--	33.3	--	3
Casual labour	Income	50.0	50.0	--	--	--	--	--	2
	Expenditure	50.0	50.0	--	--	--	--	--	2
Regular wage/salary earning	Income	--	5.8	17.4	11.6	7.3	17.4	40.6	69
	Expenditure	--	13.1	15.9	11.6	14.5	18.8	26.1	69
Others	Income	25.0	16.7	8.3	8.3	16.7	8.3	16.7	12
	Expenditure	25.0	16.7	8.3	8.3	16.7	8.3	16.7	12
Total	Income	28.2	17.7	12.4	7.7	5.3	9.4	19.4	170
	Expenditure	28.8	21.2	10.6	7.7	9.4	8.8	13.5	170

Source: Filed Survey, Manipur, 2014.

Most of the households belong to low and medium income households (below monthly income of Rs.15,000). If a household's monthly income is up to Rs.15,000 then the household is considered as low and medium income household. These households spent as much as, and even more (by borrowing) than, their monthly income. Thereby, indebtedness is prevalent among them. It portrays a subsistence income irrespective of the sources of income. Some households borrow money for different purposes such as household consumption on medical expenses, educational expenses, legal expenses, marriage and other ceremonial expenses, purchase of land or construction of building, other productive purpose, repayment of debt and others from various sources such as banks and others (Table 6). Further, the higher income group households relatively spent lesser than their monthly income so some savings is accrued across the household type (Table 7). Non-agricultural households, such as salaried households, exhibit a higher living standard and have a greater potential and tendency to save.

Conclusion

The occupational, employment and source of livelihood of ST population has changed from agricultural to non-agricultural in the region; however, it is not uniform across the NE states. The changes across the NE states are not linear and not unidirectional i.e. heterogeneous in terms of its changes. It is evident from three facts as follows: decline of agricultural households while non-agricultural households increase; decline of agricultural income while non-agricultural income rises; and shift of employment from agricultural to non-agricultural activities. However, agriculture, shifting cultivation in particular, continues to be a prominent means of livelihood for some of them. Their means of livelihood has changed from subsistence agricultural income towards diversified modern market-oriented employment and economy. Sources of income have been diversified in terms of different occupation such as social worker, administrator, engineer, doctor, nurse, police, clerk, teacher, business and others. The change of livelihood means, manifested by employment and economy orienting towards non-agricultural sector, is essentially contributed by education and economic mobility and vice-versa. This change is associated with an increase of per capita income and educational level systematically.

End Notes

¹ As per 2011 census of India, there are 241 constitutionally recognised STs in NER. ST population constituted 8.61 percent of the total population of India in 2011. About 31 percent of the ST population of the region was in Assam and the rest were in Ar.P (7.7 percent), Manipur (7.3 percent), Meghalaya (20.6 percent), Mizoram (8.4 percent), Nagaland (13.8 percent), Sikkim (1.7 percent) and Tripura (9.4 percent).

² RGI (2011) did not provide rural and urban break up for Arunachal Pradesh.

³ For detail natural resources available in different NE states please see NEDFi Data Bank (10.10.2013> <http://databank.nedfi.com/>), Indian Bureau of Mines (12.11.2013> <http://ibm.nic.in/imyb2011.htm>) and DES (2008).

⁴ For details please see Indian Bureau of Mines (12.11.2013> <http://ibm.nic.in/imyb2011.htm>) and DES (2011).

⁵ Please see Marchang (2016 and 2017a) for details of land tenure system in the hills of NE.

⁶ A household is a unit where members of a family share a common kitchen when all the members are together. The reference period of the survey was the preceding one year from the date of survey.

⁷ Also attributed by MGNREGA's 100-day guaranteed unskilled rural work per year to each rural household.

⁸ States' income is considered as proxy for ST income since a separate data for ST is unavailable. States dominated by ST population would reflect, represent and interface the income situation.

⁹ In 2012-13, only 1.9 percent of India's 2.2 lakh factories was in NER and the region contribute only one percent value of factories output in India's Rs.60 lakh crore (Marchang, 2016).

¹⁰ Area under shifting cultivation declined from 5,848 Km² in 2003 to 3924 Km² in 2009 in NER. Number of shifting cultivating families increased from 684,000 in 2001 to 748,000 in 2011 in NER. See Marchang (2016) for details.

¹¹ Perhaps partly due to the nature of land ownership i.e. community in most of the NE states especially in the ST dominated areas; partly due to equitable land distribution; and partly because of low density of population.

¹² Secondary data has also shown a similar result (Marchang, 2016).

References

- Aghion, P, L Boustan, C Hoxby and J Vandenbussche (2009). *The Causal Impact of Education on Economic Growth: Evidence from the United States*. Brookings Paper on Economic Activity, Conference Draft. (pp.1-73). Retrieved on 15 September 2014 from http://www.brookings.edu/economics/bpea/~media/Files/Programs/ES/BPEA/2009_spring_bp_ea_papers/2009_spring_bpea_aghion_et.al.pdf
- Azad, J L (1991). *Graduate Unemployment in India: An Analytical Study of Its Incidence, Nature and Causation*. New Delhi: Association of Indian University Publication.
- Bhagat, R B (2013). Conditions of SC/ST Households: A Story of Unequal Improvement. *Economic and Political Weekly*, 48 (41): 62-66.
- Callaway, A and K Bettenhausen (1973). *Approaches to Employment Problems in Africa and Asia*. London: Youth and Development in the Common Wealth.
- Chaturvedi, K N (2007). *The Constitution of India*. Delhi: Ministry of Law and Justice.
- Chaube, S K (1999). The Scheduled Tribes and Christianity in India. *Economic and Political Weekly*, 34 (9): 524-26.
- Christoph, Von F (1982). *Tribes of India: The Struggle for Survival*. Berkeley: University of California Press.
- Corbridge, S (1988). The Ideology of Tribal Economy and Society: Politics in the Jharkhand 1950-1980. *Modern Asian Studies*, 22 (1): 1-4.
- CSO (2013). *State Domestic Product (State Series)*. Delhi: MOSPI. Retrieved on November 25, 2013 from http://mospi.nic.in/Mospi_New/admin/publication.aspx
- Das, D (2006). Demystifying the Myth of Shifting Cultivation: Agronomy in the North-East. *Economic and Political Weekly*, 41 (47): 4912-17.
- Department of Agriculture and Co-operation (2015). State-wise Area, Production and Yield Statistics – 10 Year Ending (1996/97 to 2011/12). Department of Agriculture and Co-operation, GOI. Retrieved on March 13, 2015 from http://eands.dacnet.nic.in/APY_96_To_07.htm
- DES (2014). *Economic Survey Manipur 2013-14*. Imphal: Government of Manipur.
- DES (2015). *Tripura at a Glance – 2014-15*. Agartala: Planning (Statistics) Department.
- Dikshit, K R and J K Dikshit (2014). *North East India: Land, People and Economy*. New York: Springer.
- Eden, Michael J (1993). Swidden Cultivation in Forest and Savanna in Lowland Southwest Papua New Guinea. *Human Ecology*, 21 (2): 145-66.
- Foote, N N and P K Hatt (1953). Social Mobility and Economic Advancement. *The American Economic Review*. 43 (2): 364-78.
- Gajrani, S (2004). *History, Religion and Culture of India*. Delhi: Isha Books.

- Goswami, A (1984). Tribal Development with Special Reference to North-east India. *Social Scientist*, 12 (8): 55-60.
- Gumber, A (2000). Correlates of Unemployment among the Rural Youth in India: An Inter-state Analysis. *The Indian Journal of Labour Economics*, 43 (4): 657-71.
- Gupta, A K (2000). Shifting Cultivation and Conservation of Biological Diversity in Tripura, North-east India. *Human Ecology*, 28 (4): 605-29.
- Hanumantha, P R and D Grover (1979). Employment Planning for Scheduled Castes and Scheduled Tribes. *Economic and Political Weekly*, 14 (24): 1015-22.
- Horan, P M (1974). The Structure of Occupational Mobility: Conceptualization and Analysis. *Social Forces*, 53 (1): 33-45.
- Husain, Z (2006). Strategy for Food and Nutrition in North-east India. In D Basu, B K Francis and B D Ray (eds), *Agriculture, Food Security, Nutrition and Health in North-east India*. Delhi: Mittal Publication. Pp 81-90.
- Hussain, M (2004). Food Security and the North-east. *Economic and Political Weekly*, 39 (41): 4515-16.
- Kerkhoff, Elisabeth and Eklabya Sharma (2006). *Debating Shifting Cultivation in the Eastern Himalayas: Farmers' Innovations as Lessons for Policy*. Kathmandu: International Centre for Integrated Mountain Development.
- Kumar, A and P S Ramakrishnan (1990). Energy Flow through an Apatani Village Ecosystem of Arunachal Pradesh in North-east India. *Human Ecology*, 18 (3): 315-36.
- Kumar, A G (1987). The Evolving Pattern of the Economy of Tripura. In V S Mahajan (ed), *Emerging Pattern of North-eastern Economy*. Delhi: Deep and Deep Publication. Pp 246-51.
- Maithani, B P (1991). Rural Development in North-east: Problems and Prospects. In R K Samanta (ed), *Rural Development in North-east India: Perspectives, Issues and Experiences*. Delhi: Uppal Publishing House. Pp 59-68.
- (2005). *Shifting Cultivation in North-east India: Policies Issues and Options*. Delhi: Mittal Publication.
- Marchang, R (2013). Population and Educational Development of Nagas: A Brief Note. In P C Dutta and K Singha (eds), *Ethnicity, Resources and Institution for Development of North-eastern States of India*. Delhi: Akansha Publishing House. Pp 188-212.
- (2016). *Impact of Education and Employment on the Economy of Scheduled Tribes in North-east India*. Delhi: ICSSR. (Unpublished report)
- (2017a). Land, Agriculture and Livelihood of Scheduled Tribes in North-east India. *Journal of Land and Rural Studies*, 6 (1): 67-84.
- (2017b). Out-migration from North-Eastern Region to Cities: Unemployment, Employability and Job Aspiration. *Journal of Economic and Social Development*, 13 (2): 43-53.
- (2018). Employment, Unemployment, Job Aspiration and Migration: Some Reflections of Tangkhul Migrants to Delhi. In B Oinam and D A Sadokpam (eds), *North East India: A Reader*. Oxon and New York: Routledge-Taylor & Francis Group. Pp 168-83.
- (2019). *Situating Education, Employment and Economy of Scheduled Tribes of North-East India*. Delhi: Regency Publications.

- MEF & GBPIHED (2009). *Governance for Sustaining Himalayan Ecosystem Guidelines & Best Practices*. Delhi: Ministry of Environment & Forests and G.B. Pant Institute of Himalayan Environment & Development.
- Ministry of Labour and Employment (2015). *Employment Review 2012*. Delhi: Ministry of Labour and Employment.
- MTA (2013). *Statistical Profile of Scheduled Tribes in India 2013*. Delhi: Ministry of Tribal Affairs.
- Nongbri, T (1999). Forest Policy in North-east India. *Indian Anthropologist*, 29 (2): 1-36.
- NSSO (2001). *Employment and Unemployment Situation among Social Groups in India 1999-2000*. Report No. 469 (55/10/7). Delhi: MOSPI.
- NSSO (2014). *Employment and Unemployment Situation in India 2011-12*. Report No. 554(68/10/1). Delhi: MOSPI.
- (2015). *Employment and Unemployment Situation among Social Groups in India*. Report No. 563(68/10/4). Delhi: MOSPI.
- Papola, T S (1981). Urban Informal Sector in Developing Economy. Delhi: Vikas Publishing House.
- Parthasarathy, G and K A Nirmala (2000). Employment and Unemployment of Youth. *The Indian Journal of Labour Economics*, 43 (4): 683-701.
- Peale, S E (1874). The Nagas and Neighbouring Tribes. *The Journal of the Anthropological Institute of Great Britain and Ireland*, 3: 476-81.
- Reddy, B S N (1991). Shifting Cultivators and Rural Development in Garo Hill: Some Reflection. In R K Samanta (ed), *Rural Development in North-east India: Perspectives, Issues and Experiences*. Delhi: Uppal Publishing House. Pp 216-23.
- RGCCI (2001 and 2011). *Census of India*. Delhi: Registrar General and Census Commissioner of India.
- Roy, B B K (1989). Problems and Prospects of Tribal Development in North-east India. *Economic and Political Weekly*, 24 (13): 693-97.
- Roy, R D, B Xavier and M S William (2012). Study on Shifting Cultivation and the Socio-cultural Integrity of Indigenous Peoples. *Economic and Social Council*. New York: United Nations. Retrieved on February 20, 2015 from <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/241/85/PDF/N1224185.pdf?OpenElement>
- Sachchidananda (1989). *Shifting Cultivation in India*. Delhi: Concept Publishing Company.
- Sachdeva, G (2000). *Economy of the North-east: Policy, Present Conditions and Future Possibilities*. Delhi: Konark Publishers Pvt. Ltd.
- Saikia, J (1991). People's Participation in Rural Development: A Study in Nagaland. In R K Samanta (ed), *Rural Development in North-east India: Perspectives, Issues and Experiences*. Delhi: Uppal Publishing House. Pp 186-95.
- Seavoy, R E (1973). The Shading Cycle in Shifting Cultivation. *Annals of the Association of American Geographers*, 63 (4): 522-28.
- Sengupta, M (2013). Shifting Cultivation and the Reang Tribe in Tripura. *Economic and Political Weekly*, 48 (40): 56-65.
- Sengupta, N (1988). Reappraising Tribal Movements III: The Economic Basis. *Economic and Political Weekly*, 23 (21): 1054-55.

- Sethi, R M (1984). Changing Patterns of Female Labour in Agriculture: The Case of Punjab. *Social Action*, 34 (4): 354-67.
- Shimray, U A (2004). Women's Work in Naga Society: Household Work, Workforce Participation and Division of Labour. *Economic and Political Weekly*, 39 (17): 1698-1711.
- Shingi, P M, P Visaria (1988). *Youth in Asia: Viewpoints for the Future*. Delhi: New Statesman Publishing Company.
- Sikidar, S (1990). *Economic Development of Tribal India*. Delhi: Ashish Publishing House.
- Singh, T B (2007). Poverty in Manipur. *Economic and Political Weekly*, 42 (3): 251-54.
- Singha, K (2011). *Economy of a Primitive Tribal Village: A Study of Maram in Manipur*. Delhi: Concept Publishing Company.
- Srivastava, V K (2008). Concept of 'Tribe' in the Draft National Tribal Policy. *Economic and Political Weekly*, 43 (50): 29-35.
- Stevens, P and M Weale (2003). *Education and Economic Growth*. London: National Institute of Economic and Social Research. Pp 1-28.
- Stewart, C T Jr (1987). Structural Change and Intergenerational Occupational Mobility. *The Journal of Developing Areas*, 21 (2): 141-58.
- Sundaram, K and S D Tendulkar (2003). Poverty among Social and Economic Groups in India in 1990s. *Economic and Political Weekly*, 38 (50): 5263-76.
- Thangchungnunga (1987). The Agricultural Profile in Mizoram. In V S Mahajan (ed), *Emerging Pattern of North-eastern Economy*. Delhi: Deep and Deep Publication. Pp 268-73.
- Vaizey, J (1967). Education and the Irish Economy. *The Irish Journal of Education / Iris Eireannach an Oideachais*, 1 (2): 113-23.
- Visaria, P (1998). *Unemployment among Youth in India: Level, Nature and Policy Implications (Action Programme on Youth Unemployment)*. New Delhi: Institute of Economic Growth.
- www.indiastat.com (2015). Retrieved on April 9, 2015 from <http://www.indiastat.com/table/labourandworkforce/380987/employmentinorganisedsector/18526/293412/data.aspx>

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