Composition and Determination of Rural Non-Farm Sector at Household Level-Evidences from Undivided Sonitpur District of Assam

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Abstract

It is an accepted fact that the agricultural sector in India continues to be characterized by subsistence and is not capable of creating additional opportunities for gainful employment. The economy of Assam is predominantly agrarian and frequent flooding during monsoon has been the bane of its agrarian economy. This has led to sizeable shift of workers from agriculture to other sectors. The Rural Non-Farm Sector (RNFS) which has accommodated the labour shift from agriculture has attracted considerable policy attention in recent years. Assam is also no exception in this regard. The share of non-farm sector in Assam has been increasing over the years. This paper examines the composition and determinants of the rural non farm sector in undivided Sonitpur district where non- farm activities are the fastest growing sector. Based on primary data collected from sample households in undivided Sonitpur district, the paper shows that education, ownership of land holding and size of household influence non-farm employment.

1. Introduction

It is an accepted fact that the agricultural sector in India by itself, is not capable of creating additional opportunities for gainful employment and as a result, the impetus for achieving sustained development in rural areas has to pivot around expanding the base of non-farm activities (Mehta: 2002). Consequently, the Rural Non-Farm Sector (RNFS) which had been neglected for long by policy makers attracted considerable attention in recent years. Studies have also shown that with the passage of development, the share of income and employment in non-farm activities of the rural household increases. The combination of both farm and non farm income at the household level also provides a cushion against adverse situations in agriculture. This is because

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agriculture in developing countries suffers from low land-man ratio, low productivity of farming land, mono-cropping and traditional methods of farming etc. In India, the proportion of rural workers engaged in agriculture in relation to the total workforce remained stagnant at around 78 percent until 1993-94 and then declined to 68 percent in 2009-10 (Goswami and Bhattacharyya, 2014). Studies on diversification in rural employment e.g. (Basant and Kumar, 1989; Chadha 1993; Papola and Sahu, 2012; Visaria 1995) have revealed that the share of RNFS has been increasing over time and the sector has the potential to absorb the growing rural workforce productively. Some of the non-farm activities flow directly from farm sector while others are distinct, ranging from full- time but temporary wage employment in industry or construction to regular or part-time self employment in home- based handicrafts and trading or other services (ILO, 1983). In India too, economic opportunities in the non-farm sector have increased. The percentage of RNFE in total rural employment increased from 16.6 per cent in 1977-78 to 18.4 per cent in 1983, to 21.6 per cent in 1993-94 and to 23.8 per cent in 1999-2000 and 32.1 percent in 2009-10[1]

2. Insights from studies on RNFS and its linkages to economy

Though agriculture and rural manufacturing play a significant role in employment growth in the rural sector, there are but other industries like construction, trade, transport and business services that have emerged as important in recent years. A number of factors like infrastructure, per capita income, population density determine employment growth in these industries. Also government policies and regulatory framework influence these factors.

Although RNFS was viewed as a low productivity sector which produced low quality goods but over past couple of decades it has been observed that this sector has been instrumental in developing countries in creating employment opportunities, poverty reduction and more spatially balanced population distribution (Jean O. Lanjouwa and Peter Lanjouwa's). It is recognized as an important sector for economic development and growth. Bangladesh which is an agrarian country with low land-man ratio has also seen remarkable growth of rural non-farm economy (M. Hussain:2004). The share of non-agriculture in rural household income in Bangladesh grew from 42 per cent in 1987 to 54 per cent in 2000. The share of non-agriculture in rural employment increased from 34 to 52 per cent over 1987- 2000. The distribution of income from trade and services, however, remains a concern because opportunity to take up newer avenues of non- farm income remained confined to households that had better access to education and physical capital. The worsening of income inequality in rural Bangladesh was mainly on account of the increased share of income from business and services, which were more unequally distributed than the income from agriculture. In India, Punjab has been the largest beneficiary of green revolution. However, over the years, stagnation in agricultural yield, declining land man ratio, falling labour absorption capacity of agriculture and high cost of capitalist agriculture with declining/negative growth return has pushed workers out of agriculture (Ghuman: 2005). Based on a

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[1]   NSSO various Rounds on Employment Unemployment

insights drawn from a study of three districts Ghuman concluded that the increase in the proportion of rural non-agricultural workers in total workers and in total rural workers in Punjab was attributed mainly due to "push effect" rather than "pull effect". It was found that

> *'the informal private sector RNFS, in the study villages, could not generate employment with reasonable level of earnings so as to equate even with marginal and small farmers. This has been one of the main reasons for the non-switch over of much of the rural workforce (though unemployed, disguisedly employed, underemployed) to RNFS. The low level of awareness and competency, lack of self-initiative and entrepreneurial skill are the other reasons for such an apathetic situation. In fact, development and sustainability of RNFs in Punjab is closely connected with the level of skill and education. As regards rural-urban linkages of the RNFS, it was almost missing as far as production linkages are concerned as there was no manufacturing unit in the study area. However, some single-worker processing unit had some backward production linkages with the urban areas and forward production linkages with the rural areas in a crude sense'.*

In the eastern Himalayan region, Maja Micevska and D.B. Rahut (2008) made an attempt to understand the determinants of participation in non-farm activities and incomes across rural households. A study covering the two states of Sikkim and West Bengal, showed that services dominated the rural non-farm activities, at the same time the shares of non-farm wage income exceeded the shares of non-farm self-employment income across all categories of rural households. This suggested the need for more attention to the service sector and to wage employment, versus the traditional focus on rural manufactures and self-employment. While the majority of the households did diversify their activities, access to high-return from nonfarm activities might be limited in terms of special skills or capital needs. Promoting the generation of nonfarm income earning opportunities could be an important focus on poverty reducing strategies. Again, regional location affected specific sources of income. In the highlands of West Bengal, participation in and incomes derived from nonfarm employment were lower than that in Sikkim. In West Bengal age, financial family support, marriage relationship and wealth were very important determinants of non-farm manufacturing entrepreneurship of farmers. In addition, marital status, fate/work-effort, and risk were also important determinants (Dutta: 2007). It was observed that a farmer's probability of being a non-farm manufacturing entrepreneur went down with age. This indicates that a younger farmer had a higher likelihood of being a non-farm entrepreneur. As regard to wealth, it was found that a wealthy farmer was less likely to become non-farm manufacturing entrepreneur. On the other hand, a farmer who had accumulated investible fund through the benefit from green revolution felt shy to enter the field of industry. For a prosperous rural industrialization programme, wealthy farmers needed to be invited to start non-farm enterprises with their investible capital. Otherwise, rural non-farm economy had limited scope to come out of the low level equilibrium trap. For the growth of rural industrial sector, institutional intervention was required, allowing more public investment on rural physical and social infrastructure. In the far eastern Himalayan region of Arunachal Pradesh which is landlocked, there was a continuous

sectoral shift in favour of NFE during the period 1971 to 1991, in the rural economy (Panda:1999). Among the various constituents of RNFE, transport, storages, communication, construction, non-household manufacturing, trade and commerce became the dynamic sector of employment generation. Agricultural growth, urbanization, education, infrastructural development and distress diversification were found to be the major determinants of the level of RNFE. In Arunachal Pradesh except for agricultural growth in 1991, the other variables did not have any determining effect on the level of RNFE in both the years i.e. 1981 and 1991. Agricultural growth promoted RNFE mainly via consumption induced demand. Since unemployment rate in Arunachal Pradesh was the lowest in the country, and hence this variable was unlikely to have any determining effect on the level of RNFE. There is considerable scope for increasing the share of RNFE in the state by means of increasing farm production and farm productivity. As urbanization in Arunachal Pradesh is not matched with adequate infrastructural development, especially in terms of transport and communication facilities, the rural people therefore could neither commute for employment in non-farm enterprises in the towns nor could they start high value non-farm enterprises in the rural areas. This finding underscores the importance of policy initiatives towards the modernization of agriculture and the development of transport and communication for the full realization of the potential of employment generation in the non- farm sector.

The nonfarm activities in India got a major boost in the post reforms period both in terms of employment generation and overall growth of the sector. However there were regional variations across the country and in Maharashtra which has been one of the economically advanced states, did not see any transformation in the non farm sector, rather there was stagnation (Mishra: 2014). Analysis of the unit level NSS data on employment and unemployment for four quinquennial rounds 50th, 55th, 61st and 66th showed that female participation was quite low as compared to the male in non-farm sector. A large portion of male workers were mainly engaged in trade, hotels, restaurants and constructions etc. People from backward classes were mostly employed in non-farm activities as compared to the others cast because of low education level. Mishra observed that poor education and lack of training created the problem of growth of non-farm activities and concluded that the higher education and better training facilities lead to employment opportunities in the non farm sector which in turn could help in growth of non-farm sector. Another major impact of the non-farm sector has been its potential to generate female employment opportunities. An analysis of sectoral distribution of workers by Goswami and Bhattacharyya (2014) showed that the proportion of male workers engaged in farm sector declined in favour of the non farm sector, At the same time a large proportion of females have been engaged in farm sector leading to its feminization. They found that the rural females in Assam are the most disadvantageous position in the labour market as indicated by their low WPR, Women's growing contribution of labour in agriculture adds to the already heavy work burdens of most rural women, thereby further undermining their well-being, and suggests that the feminization of agriculture may better be described as the feminization of agrarian distress. This hollowing out of rural areas, the un-manning of agriculture, has been brought about by a steadily deepening crisis in household economies and Assam is no

exception. In a situation where the labour absorption capacity of agriculture becomes limited and the urban industrial sector is not able to accommodate the ever-growing labour force, the RNFS tend to act as a cushion for the surplus labour. The RNFS thus acts like a residual sector in which rural workers concentrate on account of their distress conditions. This is popularly known as the push phenomenon or distress hypothesis which is supported by several scholars (Vaidyanathan: 1986, Bhalla:1990, Unni;1991, Singh:1994). Usually scholars have identified two kinds of distress situation which has contributed towards RNF activity to absorb residual labour force: supplementary workers who have no main occupation, but engage in subsidiary work to supplement household income; and those with main occupation also engaged in a secondary activity.

3. Context of the Study

The economy of Assam is predominantly agrarian. More than 50 percent of the workers (both main and marginal categories) in the state were cultivators both (Census, 2011) but the contribution of agriculture to State GDP was 19 percent. The State has largely remained distant from the benefits of green evolution, large scale industrialization and more recently from foreign investment and value chain production system. The State still continues to be characterized by subsistence agriculture. In fact in Assam, due to the inadequate availability of irrigation facilities, mono-cropping is done in most of the areas, resulting in substantial seasonal unemployment. Further increasing population in the state has led to the fragmentation of land holding rendering modernization of agricultural practices unviable. Further, frequent flooding in Assam during monsoon has been the bane of its agrarian economy. This has led to sizeable shift of workers from agriculture to other sectors. The inter censal data (2001-2011), shows that the rural population in the state increased at 1.54 percent per annum, but employment of main workers in agriculture declined at a rate of 2.1 percent. With agriculture recording negative growth in employment, it is obvious that the shift from far sector is likely to be accommodated in the non farm sector. The proportion of rural workers in nonfarm activities has increased from 35 percent in 1999-2000 to 40 percent in 2011-12 (Saha: 2016).

It is against this backdrop, the present study has analysed the composition, income share of RNFS activities for rural households and also tried to identify the household level determinants for entering into non-farm sector. An empirical study has been taken up in the undivided Sonitpur district of Assam. The economy of this district continues to be predominantly agrarian. In fact, the dependency of population on agriculture and allied activities was approximately 80 percent (Sonitpur District Inventory of Agriculture, 2015-16). But, the productivity and production of agriculture sector are not much satisfactory due to traditional method of production, natural calamities (like-flood, drought, various diseases) and it is seasonal also. Besides this, only 31.03 percent of area is cultivable out of total geographical area and most of operational land holder is marginal (36.45 percent).[2] The large size land holdings comprise 5.10 percent of cultivable land of the district, whereas marginal land holdings occupy 15.82 percent.

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[2]   http://sonitpur.gov.in/html/agri.html

The small size land holders (42.80 percent) have the highest occupation of cultivable land.

4. Data Source and Methodology

The study was based on both primary and secondary sources of data. The secondary data were collected from various government and non-government, published and un-published data like- Population Census of Assam 2001 and 2011, 4th and 5th Economic Census of Assam, District Statistical Handbook of Sonitpur, Sonitpur District Inventory of Agriculture 2015-16 and Various issues of Statistical Handbook of Assam. The primary data was collected from a survey of 130 sample households in four villages of (undivided) Sonitpur district of Assam. The sample households were selected through a multistage random sampling technique. At the first stage, two sub-divisions were selected purposively on the basis of extent of rural non-farm sector viz., Gohpur and Biswanath sub-division. In the second stage, two blocks from each sub-division were selected namely Chaiduar, Pub-chaiduar, Bihali and Sakomota blocks purposively on the basis of extent of rural non-farm sector. In the third stage, one village from each block was selected on the basis of two criterions: 1.distance from the block head quarter and nearest town and 2. size of total population. An attempt was made to include low population size and high population size of village. At the final stage, the sample households were selected randomly. An attempt was made to select at least 30 households from village with low population size and 40 households from village with high population size on the basis of farm and non-farm or both activities.

The data have been analysed by using descriptive statistical measures like Pie-diagrams, mean, standard deviation and for a causal analysis logit regression has been used.

5. Results and discussions

5.1. Composition of the Surveyed Households by Caste

In the rural economy of Assam, caste is often found to play an important role in case of choice of occupation and they may act as a barrier to only in particular vacation. In this study, the households were divided into five categories on the basis of caste namely-

i.   General (GEN)
ii.   Schedule Caste (SC)
iii. Schedule Tribe (ST)
iv.   Other Backward Class (OBC) and
v.   Tea Tribes
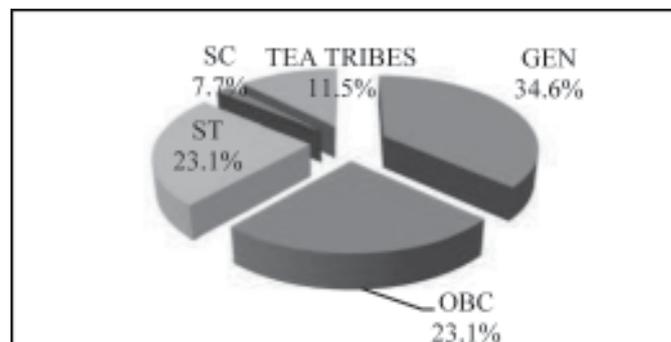
The details are shown in the Figure 1.

Figure 1: Caste Composition of Surveyed Household

Source: Field Survey, 2017

Among 130 surveyed households, 34.6 percent belonged to general caste, while 23.1 percent were OBC and ST category respectively. Further, 11.5 percent constituted of tea tribes category and the proportion of SC households in the sample was around 7.7 percent.

Table 1: Occupational Classification of Surveyed Households by Caste *(in percent)*

	GEN	OBC	ST	SC	Tea Tribes
Cultivation	31.11	23.33	36.67	12.5	17.64
Self employment	2.22	3.33	3.33	0	0
Household Industries	2.22	3.33	0	0	0
Transport	2.22	6.67	3.33	0	0
Petty traders	28.89	30	30	75	0
Services (Salaried Job)	13.34	20.00	16.67	0	0
Daily labor	4.45	6.67	6.67	0	58.82
Other Services	15.55	6.67	3.33	12.5	23.52
Total	100	100	100	100	100

Source: Field Survey, 2017

It was found that ST and general category households were relatively more dependent on cultivation. ST's had a higher proportionate share (36.67 percent) of workers in agriculture among all the occupations. Salaried job was the third major source of income after cultivation and petty trade for general category and ST and OBC households. Petty trade was the major source of income for SC households. At the same time, no members from SC households were found to be engaged in salaried jobs and services. Among the three socially disadvantaged groups of SC, ST and OBC, the SCs were found to be more disadvantageous in so far as livelihood security was concerned. Along with the SC households, tea tribes were another group which was more disadvantageous. Majority of tea tribes (58.82 percent) were engaged as daily laborers

in tea plantations and a small proportion was engaged in agriculture (18 percent) and other casual works and services (24 percent). This shows that there has not been much of an occupational diversification by the tea tribe, worse still none of the tea tribe households had any person in salaried job. This in a way reflects the distress and crisis of tea plantation labour households in Assam.

The livelihood crisis among the SC and tea tribe households could be attributed to the overall educational attainment, household income and level of awareness which was comparatively lower among these households.

5.2. Non-Farm Employment

Land is an important asset among the households which is often found to have important implications for the pursuance of non-farm activities. In States like Punjab where agricultural productivity increased during green revolution, yet workers engaged in non-farm sector moved out from the farm activities due to push effect of agricultural sector rather than the pull effect of non-farm sector (Ghuman: 2005).

Although there were no landless households found in the sample households, nevertheless the average size of land ownership was found to be low. (Table: 2). Majority of the households (61.53 percent) had marginal holdings, followed by households with small size holdings (22.32 percent). Households with large size holdings were found to be only 3.08 percent.

Table 2: Operational Land Holding Status of Sample Households *(in percent)*

Land Size[3]	Percentage
Landless	Nil
Marginal (Less than 1 hc)	61.53
Small (1 hc to less than2 hc)	22.31
Medium (2 hc to less than 4 hc)	13.08
Large (4 hc and Above)	3.08

Note: 1 bigha=0.13387Hectres   Source: Field Survey, 2017

The pattern of ownership of agricultural land is a significant factor in influencing the choice of occupation by rural households. The occupational classification of surveyed households by size of land holding reveals that engagement in non-farm activities is found to be relatively high among households with marginal (89.74 percent) and large (83.33 percent) land holding size. Clearly, households with agricultural land sizes of less than an acre were more distressed and looked for alternative sources of income. Households with land sizes of less than an acre are forced to take up activities outside agriculture because ownership of such land sizes does not help in creating assets and

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[3]   The land size classification in the study does not conform to the standard classification of land size given in official statistics of the Government of Assam. This classification has been done by the researchers for the present study only.

generate surplus for investment in farm activities (Table: 3)

Table 3: Distribution of Non-Farm Workers by Land Holding Status *(in percent)*

Land HoldersNon-Farm workers	Marginal	Small	Medium	Large
Self Employment Enterprises	1.28	0	1.92	16.67
Household Industries	1.92	4.34	1.92	0
Petty trade	**26.92**	17.39	17.31	8.33
Services	19.88	**20.29**	**28.82**	**33.33**
Daily labour	18.59	4.36	0	0
Others	21.15	**20.29**	7.69	25
Total	**89.74**	**66.67**	**57.70**	**83.33**

Source: Field Survey, 2017

On the other hand ownership of large tracts of agricultural land increases the value of household assets and enables households to create opportunities for acquisition of better educational attainment and other skills and thereby become better equipped to move into more remunerative non-agricultural occupation. Engagement in non-farm activities among households with small and medium size of land holding varied from 66.67 to 57.7 percent. One observes a U shaped curve showing the relation between size of land holding and diversification into non-farm activities (Diagram:2). For the households with land size of less than one hectare, returns from farm activities did not provide for sustenance and well being and hence working age people have moved out to non- farm activities in low skill areas like petty trade and business. On the other hand households with land holding sizes of more than one hectare have moved more into services (20 percent) and others (20 percent) compared to petty trade (18 percent).
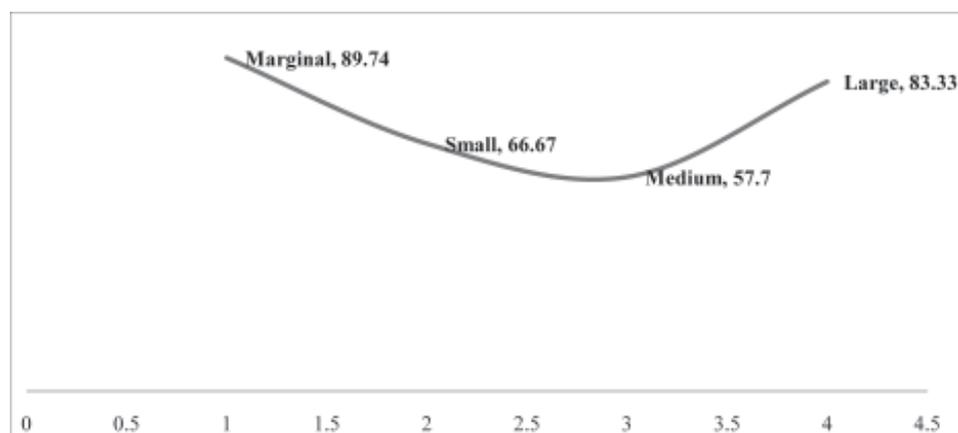

Figure 2: Non-Farm Workers by Land Holding Status

Source: Field Survey, 2017.

The households in the threshold of land ownership of one hectare to less than four

hectares gradually seek out for more secured livelihood by moving into salaried jobs. The study corroborates the trends observed elsewhere in India that with increase in land sizes diversification also takes place in occupations. Thus increase in land holding sizes of the households help in diversifying income earning opportunities. Interestingly, distress in farm activities for households with lower land holding sizes force households to shift to lower end activities like petty trade and casual work, while distress felt by households with fairly endowed agricultural households tend to move out gradually to more secured livelihood opportunities like salaried jobs and own enterprises and their dependence on petty trade as an alternative source of income also diminishes gradually.

5.3. Income of Rural Households (Farm, Non-Farm and Mixed)

The composition of the sources of income among the surveyed households showed that two thirds of the surveyed households were dependent on both farm and non farm income. This could be attributed to the seasonality of agriculture and income from farm is not adequate for sustenance. Barely 0.33 percent of surveyed households derived their income purely from agricultural activities which shows a distinct trend towards non-farm activities and one third of the surveyed households derived their income only from non-farm activities (Diagram:3).

Among the various non- farm activities taken up by the surveyed households, salaried job was found to have highest proportionate share (44.77 percent) followed by self employment (32.19 percent) (Table; 4). Non- farm wage labour comprised less than 10 percent of the non-farm income earning sources.
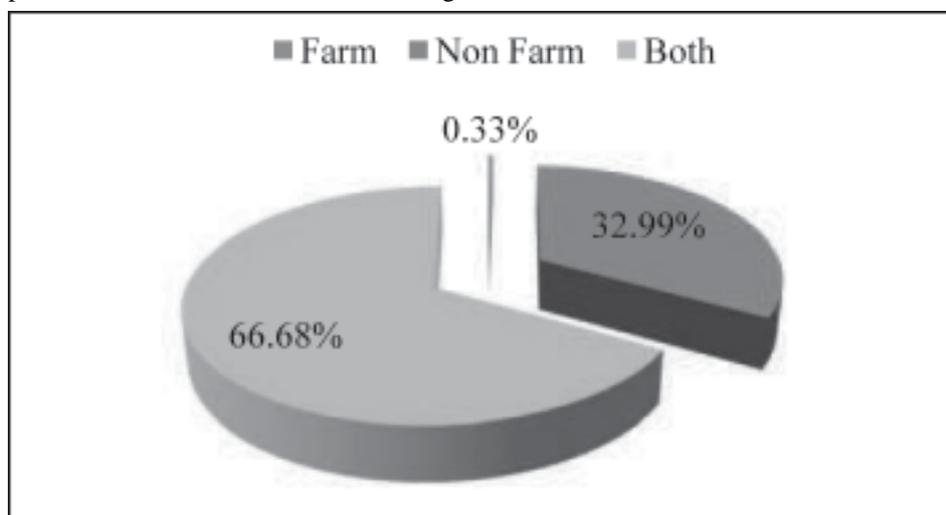

Figure 3: Income Orientation among Surveyed Households

Table 4: Composition of RNFI in Surveyed Villages (*In Percentage*)

Rural Non Farm Activities	Total
Non-Farm Wages	9.02
Salaries	44.77
Skilled & Semi Skilled Worker	11.97
Self Employment in RNFS	32.19
Household Industries	0.63
Others	1.42
Total	100

Source: Field Survey, 2017

Since, a good proportion of income is derived from self employment and skilled & semi-skilled work activities, it would be worthwhile to desegregate self employment income by various subsectors (Diagram 4) viz. (i) Self employment in Trade and business, (ii) Skilled and Semi-Skilled workers, (iii) Household industries and (iv) Others.
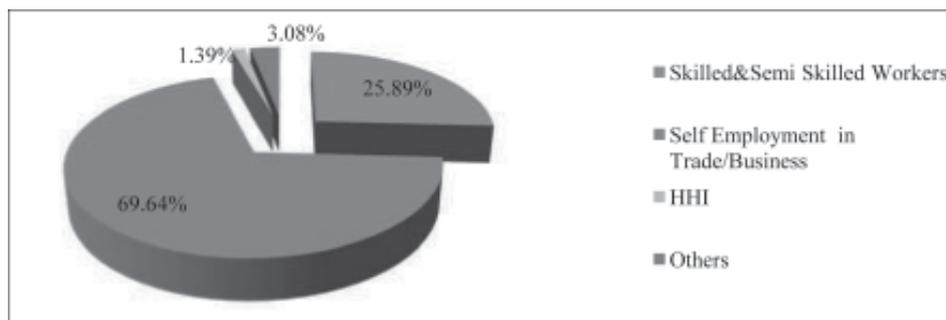

Figure 4: Self Employment Income by Sub Sectors

Source: Field Survey, 2017

Within the self employment 69.64 percent households, drew their income from trade/ business. In other words, non-farm self employed workers among surveyed households were mostly engaged in trade and business for their livelihood. At the same time, skill and semi-skilled activities like-machine operator, embroidery, waving cotton and fishnet, oil and rice mills, drivers, electricians, plumbers etc. contributed 25.89 percent. Only 1.39 percent of income was generated from household industries (like- furniture, bamboo items producer, sweet and backs product, ring well and various cement items producer etc.) in the surveyed villages. Household industries contributed low income than other self employed income due to low level of entrepreneurial skill, low production linkages, lack of finance and most of workers from nuclear family.

The findings reveal that shift to non-farm activities has been mostly in jobs and petty

trade and business.

5.4. Factors Influencing Non-Farm Activities- A' Logit Analysis

To understand the factors or determinants of non- farm activities pursued by households logit regression has been used where the primary source of income of the household(Y) has been taken as the dependent variable. To capture the non-farm income, the dependent variable Y will obviously be a binary variable that takes value 1, if income (Y) is derived from non-farm activities and takes 0, if income (Y) is from farm activities. The possible determinants are (i) Age (AGE), (ii) Educational level (EDN), (iii) Gender (Binary Variable),(iv) Total family member (TFM), (v) Per capita size of land holdings (PCL) and (vi) Caste (Binary Variable: caste of the households takes 0 when they are general and takes 1, if they belong to other caste)

Functional specification of the model

As the dependent variable (Y) is binary, the logit model is specified as:

$E(Y_i) = P(Y_i=1)$ ——————————————————————————————(i)

$Y_i=1$, if head of the household engaged in non-farm sector.

$Y_i=0$, if head of the household is not engaged in non-farm sector.

Or, $P(Y_i=1) = f$ (Caste, EDN, Age, Gender, PCL,TFM) ——————————————(ii)

Before estimating the parameters, presence of problems of heteroscedasticity has been checked among the explanatory variables. The estimated results of the logistic regression model are shown in Table 5.

Table 5: Results of Logit model

Explanatory Variables	B	Wald	Sig.	Exp(B)
ConstantCaste	1.0550.641	.3891.794	.533.180	2.8721.898
EDN	0.152	6.032	.014**	1.164
Age	-0.007	.166	.684	.993
Gender	1.132	1.023	.312	3.101
PCL	-0.533	12.733	.000***	.587
TFM	-0.275	6.421	.011**	.759

Source: Field Survey, 2017

*Note:** and *** indicates 0.05 and 0.01 level of significance.*

Note: EDN represent Education, PCL represent Per Capita Land and TFM is Total Family Member.

The regression results showed that three explanatory variables namely per capita land, education level and size of family had significant impact on participation of non-farm

activities. The most significant variable is per capita land holding (at 0.01 level of significant) but with a negative coefficient which indicates that lower the size of per capita land holding, higher the participation of non-farm activities and vice-versa. This may be due to the fact that households with land holding size of less than a hectare or landless are forced to take up non-farm activities due to non sustainable income from land which is prized as the most productive asset in rural areas. The results also showed that the probability of a worker participating in non-farm activities increases with an increase in years of completed education level of head of households. This explains the reason for salaried jobs emerging as a major non farm income among the surveyed households. On the other hand increase in household size reduces the odds of a worker participating in non-farm activities because of low educational level and engaged in own agricultural activity, other thing being held constant. In other words, the larger the household size, the higher is the likelihood of the worker being engaged in agricultural activity than in non-farm sector. Age as a determinant is inversely related with non- farm activity, higher the age of the worker, lower is the probability of shifting to a non-farm activity from farm activity because occupational switch over decreases with age. Thus, relatively younger workers are more likely to be employed in non-farm activities.

6. Conclusion

 The broad conclusion emerging from analysis based on primary data shows that the non-farm sector is a major source of employment for the people in the study region. The RNFS encompasses a wide verity of activities including salaried jobs, self employment ventures and casual wage based employment among the households. It has been observed that caste plays an important role in influencing the choice of occupation. For example it is found that ST workers were relatively more dependent on cultivation than any other caste categories, because of landholding sizes by caste is relatively larger in case of STs and a relatively high proportion of SC workers were found to be employed either in petty traders or in other services. This is quite expected as households belonging to marginal category of land holdings. At the same time it is found that ownership of agricultural land critically influences the choice between farm and non-farm occupation as diversification into non-farm activities was found to be significantly high among farmers with land holdings of less than an acre and farmers with land holdings more than four acres because households tend to diversify their income basket with higher levels of endowments.

However, vulnerability of households emerges as a basic feature among the surveyed households because as many as two thirds of the households combine both farm and non farm income for their sustenance. This is largely due to the seasonality of agriculture and the income from farm is not adequate. It is interesting to observe that only 0.33 percent of surveyed households derived their income purely from agricultural activities and these households mostly belong to marginal land holdings and have low educational attainment. Among various types of non-farm activities salaried jobs had the highest proportion (44.77 percent) followed by self employment in RNFS (32.19 percent). The non-farm wage labor like- helpers in carpentry and paint works, drivers, conductors, etc.

consisted only 9.02 percent. In case of self employment in non-farm sector it is found that 69.64 percent of income contributed by self employment is from trade/business. It means most of the non-farm self employed workers were engaged in trade and business for their livelihood.

Among the various factors that may influence shift to non- farm activities, education is the most significant factor. The other significant factor is per capita land holding and size of household. The higher the level of educational attainmen better is the chances of a shift over and coping mechanism in non-farm activity. This is because higher capabilities would not only equip workers better to tackle the uncertainties of distress induced shift but also help in finding sustainable sources of non-farm income. In fact development and sustainability of RNFS is closely connected with the level of skill and education, and the findings in the study corroborate similar results confirmed through studies by Ghuman (2005), Saha (2016), Unni (1991). As low educational attainment level in rural households leaves them employable only in low skilled activities and petty works, there is a need for initiating skill-oriented relevant training programmes to enhance their employability in RNFS in Sonitpur district and the state of Assam as a whole where RNF is a fast emerging sector.

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