Composition and Determinants of Rural Non-Farm Employment in Darjeeling District of West Bengal, India

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Abstract

The RNFS has gained immense attention as an effective source of creating additional employment opportunities and generating income in the rural areas and thereby stimulating further growth in rural economies. Based on primary data collected through field survey from Darjeeling district of West Bengal, this study is and endeavour to understand the composition and the determinants of rural non-farm employment in the Hill Regions of Darjeeling district. Binary Logit Model and Multinomial Logit Model have been employed for the purpose of identifying the determinants non-farm employment. The Study shows that the probability of choosing non-farm sector are significantly affected by factors like age, sex, educational attainment, household's asset value, access to loan and by ownership to land. The relationship between land holding and the incidence of non-farm employment depicted a negative relationship implying that the marginalisation of landholding in the study area is one of the important factors that has pushed the workers towards non-farm activities. It is also found that the attainment of higher education is an important factor for choosing regular non-farm activities.

Introduction

The Rural Non-Farm Sector (RNFS) has gained immense importance in the current discussions on rural development of many developing countries including India. And the obvious reasons for the rising interest on the RNFS are its increasing importance to rural livelihood, and its prospective ability to offer not only alternative opportunities of rural work force, but also in reducing rural poverty, raising income and living standard of rural people and thus bringing up the overall development of the rural areas. Given the limited capacity of agricultural sector to absorb the burgeoning labour force in rural areas combined with the inadequate success of land reform measures and inept trickle-down effects of growth process, there has been increased realisation that the growth stimulating policies should be supplemented with the rural development programmes that focus on diversification of employment in favour of non-farm sectors in rural areas. Thus, the RNFS has gained immense attention as an effective source of creating additional employment opportunities and generating income in the rural areas and thereby stimulating further growth in rural economies.

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The growth of non-farm employment depends on various types of factors. All these factors can be categorized as either the "push" factors or the "pull" factors. The pull factors of the development-led factors explain of certain factors which encourages various rural nonfarm activities. Different economists have identified different pull factors that have led to the growth of RNFS. Mellor (1976) for instance, asserted that the technology growth in agriculture has led to several linkages which in turn have induced RNFE. Visaria, (1994) suggests that development of urban centres give impetus to nonfarm employment in the adjoining rural areas due to low factor prices (rural land and labour). According to Acharya and Mitra (2000) infrastructural facilities and supportive institutions encourage RNFE. Several human resources related parameters like education and skill, development of rural workers, credit availability for nonfarm activities have also encouraged the expansion of RNFS. On the other hand, limited capacity of agriculture to absorb the ever growing labor force, declining land-man ratio and low employment elasticity due to fragmentation of landholdings pushes the rural labor to seek employment in alternative sectors. This is also sometimes termed as the 'distress diversification' or 'push effect'. Thus, according to "distress-led-growth" view rural non-farm activities is viewed as last resort and residual where wage rate may be lower than agricultural sector and is untaken by those laborer who are unable to find adequate employment in agricultural sector (Vaidhyanathan, 1986).

Rural households and workers may have different capacity and reasons to engage in different types of non-farm employment. Asset endowments in terms of land ownership, educational attainment and regional and cultural environment can have a massive impact on an individual's choice of employment. A deep understanding of the factors that lead a household to diversify their activities and resources can help us to assess the impact of such process on their economic conditions and is also crucial for the policy makers to adjust their policies accordingly. However, RNFS encompasses a diverse set of activities, ranging from high productive to very low productive jobs and it is heterogeneous in characteristics (Reardon, 1997). Thus, there is need to analyse the nature, significance and determinants of RNFS growth in different regional and sectoral context (Mishra, 2007).

Several studies have been conducted in India [for instance, Basant, 1993; Unni, 1996 (Gujarat); Eapen, 1995 (Kerala); Bhaumik, 2008 (West Bengal); Panda, 1999 (Arunachal Pradesh); Ranjan, 2008; Singh, 1994 (Uttar Pradesh); Shukla, 1991 (Maharastra); Sidhu, 2002 (Punjab)] on the issue of non-farm employment and its implication to employment diversification, gender and poverty. However, no systematic work has yet been done in the Hill regions of West Bengal to understand the characteristics and determinants of rural non-farm employment.

Occupational pattern is an important aspect of any population that gives shape to its socio-economic characteristics. Various factors like geographical features of the region, climatic conditions, physical environment influences the type of economic activities that the people get engaged in. The economy of mountainous region is largely shaped by certain constraints like difficult and uneven terrain and other means of communication. As most of the rural population is either engaged as plantation workers in Darjeeling district, agriculture is practiced by limited section of the society mostly in rural areas. Low agricultural productivity due to small land holding and traditional technique of production has lead to declining share of Agriculture and shift of workers towards non-agricultural sector. The increasing trend in non-farm sector was mainly attributable to the declining agriculture productivity which forced the larger number of workers to seek employment in non-agricultural sector like trade, business, transport, tourism and other services. Development of tourism and other allied activities in the region is another reason which has attracted a large number of skilled and unskilled workers towards non-farm sector.

Survey Design and Data

The present study is empirical in nature exclusively based on primary data collected through field survey from Darjeeling district of West Bengal. A multistage random sampling technique was chosen for the study. At the first stage, district Darjeeling was selected purposively because this district has huge proportion of workers in RNFS and being a hilly and isolated region it was of immense interest to understand the determining factors of RNFS in the District. In the Second stage of sampling, two sub-divisions namely Kurseong and Darjeeling were selected on the basis of the intensity of prevalence of non-farm activities. In the next state, we selected one block from each of the sub-division and subsequently, one advanced villages and two backward villages were chosen from each of these blocks. The selection of advanced and backward villages was guided by the available socio-economic indicators at the block level. Once the villages were selected the sample households have been taken using the technique of random sampling to make up a total of 302 households.

The main objectives of this study are to examine the composition and determinants of RNFE and explore the socio-economic features of the hilly region of Darjeeling District. The composition of non-farm employment has been analytically explained using tabular and diagrammatical presentation of the data. The gender segregated employment status in the advanced and backward villages has been analysed by means of Workforce Participation Rates (WPR). WPR is defined as the proportion of total workers (both main and marginal worker) to total population. The non-farm activities in the study area have been classified into three broad categories: Casual employment, Self-employment and Regular employment. Casual wage worker are those who works casually and gets wages according to the terms of the daily or periodic work contract. A person who gets salary or wages on a regular basis are the regular salaried workers and those who operates his own enterprises or are engaged independently in some economic activities are called self-employed workers. Binary Logit Model has been utilised to analyse the determinants of participation in Non-farm employment by the workers. Further, we have made explorations of the factors that determine the participation in different forms of non-farm sector as classified above with the help of Multinomial Logit Model.

Socio- Economic Features of the Sample Villages

The village- wise distribution of sample size, average family size, average family year of education and male and female literacy rate in each village are depicted in Table 1. Total population among the sample villages surveyed is 1419 of which 49% are male and 51% are female. The table shows that there is no much variation among villages in terms of average family size which is around 4.7 for the entire sample village. The overall sex ratio of the sample villages indicates slightly larger female population as compared to male population both in backward and advanced villages. Almost equal sex ratio and even higher number of female in some of the villages indicates absence of discrimination against girl child. The overall literacy rate in the selected sample villages is also found to be higher; this is also a clear indication of social upliftment of the people in sample households. The household's average year of schooling is also slightly higher in advanced (9.47) than backward villages (8.10). The overall dependency ratio is found to be slightly higher in advanced villages (0.47) than in backward villages (0.45). The highest dependency ratio is found in village

Shivgram (0.53) and lowest in Bagora (0.41). The overall average household's year of schooling is 8.73 years for sample villages.

Table 1: Socio-economic Characteristics of Sample Villages

Villages	Total HH in Sample	Average family size	Sex Ratio	HH Average year of schooling	Dependency ratio	Average Earning Members / HH
Prashanti Gram	51	4.25	955.35	9.17	0.413	2.09
Shivgram	71	4.94	1095.2	9.77	0.546	2.13
Advanced	122	4.595	1025.27	9.47	0.474	2.11
Bagora	45	4.6	1009.7	8.82	0.411	2.31
Nayabasti	35	4.8	911.11	6.58	0.446	2.51
Sidaline	54	4.48	1104.3	7.94	0.474	1.98
Chatakpur	46	4.93	991.22	9.08	0.570	1.49
Backward	180	4.93	1004.08	8.105	0.450	2.23
Total	302	4.7	1021.3	8.73		

Source: Field Survey, 2013-14.

Scheduled Tribes (STs) accounted for more than half (51.9%) of total sample households followed by General category (33%) and Other Backward Castes (OBCs) 9.9%. Overall, Schedule Castes (SCs) form only a small proportion 4.63% of the total households. Scheduled Tribes (STs) accounted for the largest proportion of total sample households in backward villages. While in advanced villages General and upper castes constituted larger proportion followed by STs and OBCs.

Household Land Ownership

Ownership of land is one of the important assets in determining the economic status of a household. Land use pattern in the district suggest the prevalence of activities like agriculture, tea plantation, medicinal plant plantation, grazing and waste land, reserved forest, rivers, and construction works. Major proportion of farmers has marginal holdings and there is very limited scope for extension of agricultural land due to geographic feature of the region. According to the District Statistical Handbook, 2010-11, the district has a total area of 325.469 hectare out of which 38.27 percent is under forest, 41% are net sown area and 12.45% are under non-agricultural use.

Table 2: Land Distribution in the Surveyed Villages

|	ADVANCED VILLAGES			BACKWARD VILLAGES		
	No. of Holdings	Proportion	C.V.	No. of Holdings	Proportion	C.V.
Landless	16	13.11	-	18	10	-
Sub-marginal	89	72.95	117.02	120	66.66	108.08
Marginal	6	4.9	11.64	22	12.22	21.45
Small	10	8.19	22.87	18	10	11.23
Medium	1	0.81	-	2	1.11	22.39
% of Operated land	37	0.4	145.29	81	0.46	126.22
Total	122			180		
Mean Land	0.382			0.529		
Average operated land	0.283			0.386		

Source: Same as table 1.

In 2011, 83.2% of the total holdings constituted marginal holdings while the medium and large land holdings formed a miniscule proportion of respectively 0.396% and 0.145% in the district.[2] Table 2 shows the distribution of sample households according to the land ownership[3]. 11.5% of sample households are found to be landless, and the respective percentages in advanced and backward villages are 13% and 10%. Altogether a huge proportion of possessed land (69%) was of sub-marginal size, and advanced villages recorded a high proportion of land (72.9%)) under this category compared to backward villages (66.6%).[4] Only 0.81 % of households in advanced and 1.11 % in backward villages possessed land of medium size. The average land holding size for the sample households is found to be 0.45 acre; it is 0.382 acre for advanced villages and 0.529 acre for backward villages. Backward villages have larger average land holdings and higher number of holdings under marginal and small size; this is because agriculture is still found to be important activities for certain families in backward villages for which acquiring land is important factor. While in advanced villages we find that majority of household are non-agricultural and land is possessed mostly for constructing houses. Near about 45% of the total land holdings in the sample households is found to be under operation and the average operated land in advanced and backward villages are 0.283 acres and 0.386 acres respectively.

Size of Land Holdings and Non-farm Employment

Ownership to land is one of the important factors influencing the choice of employment of workers in rural area. The trend relationship obtained between ownership of land and non-farm activities for our sample data are presented in figure 1.

The figure depicts a clear inverse relationship between land ownership and non-farm employment in both villages. As the size of land holding increases, the level of non-farm employment is found to decline.

Figure 1: Relationship between Ownership of Land and Non-Farm Employment
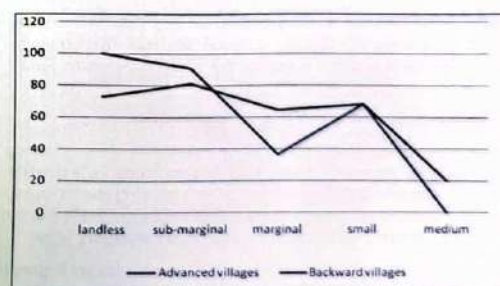
Source: Field survey, 2013-14.

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2   Marginal land holdings of 1 hectare or less. (District Statistical Handbook, 2011)

3   Total land holdings including land under house, operated and non-operated land.

4   For survey data we have categorized land holdings as follows: Sub-marginal holding =0.01 - 0.41 acres; Marginal holding = 0.42- 1 acre; Small holdings = 1 – 2 acres; Medium holdings = 2 – 4 acres; Large holdings = more than 4 acres.

The prevalence of nonfarm employment is found to be higher for landless workers, indicating the fact that the prevalence of landlessness and sub-marginal land holdings has led the workers to search for non-farm activities and thus highlighting the distress-led growth of non-farm employment in the study region. It establishes our hypothesis that the expansion of non-farm sector is directly associated with marginalization of landholding, low agricultural productivity and the prevalence of unemployment.

Type of Economic Activities and Nature of Involvement

The occupational structure of a society describes distribution of population among different types of occupations classified according to skill level, economic function, or social status.

Workforce Participation Rates

The work force participation rate of male and female by both main and marginal activities in the sample villages is presented in table 3. Over all it is found that 48.59% of adult population in our sample villages are in workforce. On an average, 68% of male and 30% of female are in work force as main workers, it increases to 71% for male and 41.6% for female workers when both main and marginal workers are taken into consideration.

Table 3: Work Force Participation Rate by Gender in the Sample Villages

| Villages	WFPR(main)			WFPR(main+ marginal)		
	Male	Female	Total	Male	Female	Total
Advanced	68.95	28.945	47.95	71.225	36.67	52.66
Backward	68.2375	32.2925	49.605	70.1775	47	58.08
Total	68.55	30.11	48.59	71.11	41.62	55.53

Source: Field survey, 2013-14.

Female workforce participation rate is found to be less than half of men and a large portion of women worker are involved in marginal activities indicating that the labour market has largely remained a man's arena in the study area where female gets fewer opportunities.

Gender-wise Sectoral Distribution of Activities and Nature of Jobs

The figure 2(a): presents the distribution of male and female workers among three major sector of employment in the study area. Primary sector constituted 9.6% of male workers and a larger proportion of female (42.62%) workers, while secondary sector engaged 16.8% of male and about 8% of female, and there is higher concentration of male workers (73.6%) in tertiary sector as against this only 49% of female workers are in tertiary sector.

Distribution of workers by their nature of jobs in the sample villages is given in the figure 2(b). It is found that almost half of total working men are engaged in regular salaried jobs and another half are either employed as casual workers or as self employed. On the other hand, a huge proportion of women are self employed, and less than one-fifth are in regular employment and about 10% are casual labourers working either in agriculture or non agricultural activities. Most of the self employed women are either agricultural workers engaged in their own land or are involved in small business undertakings.

Figure 2: Distribution of Workers in Sample Villages

a. Distribution of workers in major sectors

b. Distribution of workers by the nature of jobs.
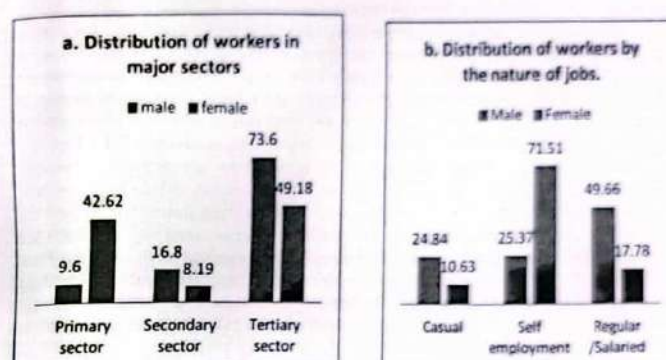
Source: Field survey; 2013-14.

Although agriculture is still an important occupation for certain rural households, however low productivity and small land holdings do not seem to make the agriculture an adequate source of income in the sample villages. The workers are found to rely on various other non-farm avenues like, construction works NREGA, business and trade, restaurants, teaching profession and a considerable number of workers are also found in armed forces.

Figure 3: Distribution of Activities by Type of Skills in Advanced and Backward Villages
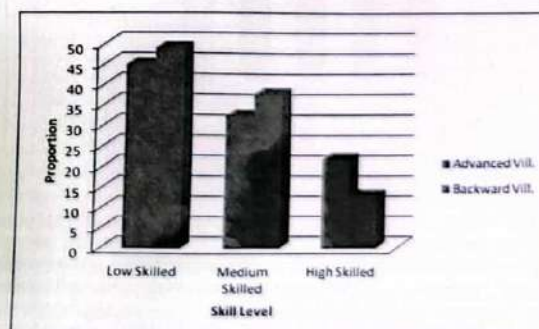
Source: Field survey, 2013-14.

A combined sectoral distribution of non-farm activities according to skill[5] types for both advanced and backward villages (figure 3) depicts that there exists some variations in the types of activities pursued between two types of villages. It is found that 22% of the non-farm activities pursued in advanced villages are of high skill level, while the proportion of such types of activities in backward villages is only 13%. On the other hand, the proportion of low and medium skilled jobs is much higher in backward villages as compared to that in advanced villages. Thus, higher percentage of low and semi-skilled jobs and comparatively lower percentage of high skilled jobs in backward villages is the indication of the fact that regional factors do have important implications on the types of non-farm activities generated in the region. Moreover, the factors like landlessness, marginalization of land holdings, low agricultural productivity and unemployment, are some of the driving forces that pushed the workers to undertake low productive jobs in backward villages, implying distress –led growth of RNFS in our backward villages which usually generates low-productive non-farm activities. On the other hand, the workers of the advanced villages are capable of availing quality jobs in the non-farm sector provided by regional advantages, as the advanced villages provide better prospects for non-farm employment that act as a pull factors for the worker to diversify towards non-farm activities.

Figure 4: Distribution of Workers by Their Skills in Advanced and Backward Villages
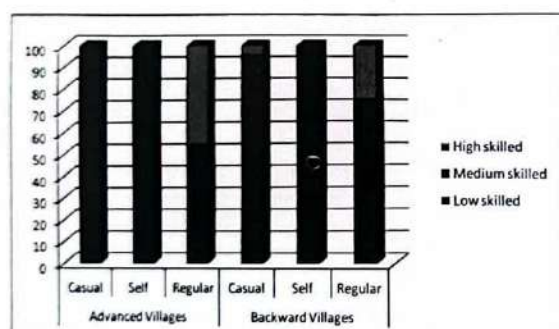
Source: Field Survey, 2013-14.

Figure 4 represents distribution of employment types by the degree of skills possessed by workers in non-farm employment in two types of villages. It is found that large portion of employment generated in casual employment is of low-skilled types in both villages. And most of the self-employment activities are also found to be of low skilled and medium skilled types and the percentage of low skilled self-employment are slightly higher in case of advanced villages. Whereas, regular employment constituted both low and high skilled jobs, though the percentage of high skilled regular jobs are higher in advanced villages. This indicates the fact that most of self-employed and casual workers in both villages are forced to

5   We define low-skilled activities as activities that are low in productivity and return and irregular income and do not require higher educational or technical requisites. The high-skilled activities on the other hand, are those that possess characteristics opposite to these.

practise trivial activities that are yielding low returns. A small proportion (3.8%) of casual work in backward villages are also found to be high skilled. However, in advanced villages most of regular jobs are high and medium skilled types and few of them are low skilled types indicating that the regional factors play an important role in the growth of non-farm activities.

Among various activities of secondary sector in backward villages, construction provides most of the employment to non-farm households, accounting for 12.17% of total employment (Table 4). In tertiary sector, services are found to be the most prominent sub-sector that offers the maximum employment followed by tourism subsector and trade and business activities in backward villages and their relative shares are 29.08, 12.46 and 10.72 percent respectively.

In advanced villages, manufacturing is the major sub-sector which provided employment to nearly 6.10% of the total workers. Carpentry is the major activities in manufacturing which provided employment to nearly 30% of total manufacturing workers; other important activities include metal craft, Shaw mills and cheese factories. The tertiary sector accounted for a comparatively higher share of 73% in advanced villages. Again, service is the important subsector as it employs nearly 33% of the total workers in advanced villages, followed by trade and business and tourism activities with the respective share of 17.8 and 16.4 percent.

Table 4: Percentage Distribution of Workers across Different Sub-sectors

	Advanced Villages	Backward villages	All villages
Agriculture	14.08	25.22	20.96
Mining & Quarrying	0	0.289	0.17
Construction	3.75	12.17	8.96
Manufacturing	6.10	3.76	4.65
Electricity, water, gas etc.	2.81	2.89	2.86
Hotels and restaurants	3.75	0	1.43
Wholesale and retail trade	17.84	10.72	13.44
Transport and communication	2.35	3.18	2.86
Non-Tourism (Services)	32.86	29.08	30.07
Tourism services[6]	16.43	12.46	13.97
Total	100	100	100

Source: Field Survey, 2013-14.

The structure of occupation shows that service sector (for e.g. military services, police, and school teachers) is most preferred jobs among non-farm households, and other important activities are petty trade, businesses of agricultural produce, etc. Thus, non-farm employment in the study villages is found to be much diversified. For example, the important occupation in service sub-sector include a variety of activities such as, milk vendors, plumbers, electricians, beauticians, guards, doctors, nurses, lorry drivers, village priest, and teachers. In tourism sector, driving of tourist vehicle is found to be the most dominant activity that accounted for more than 80 percent of tourism employment, and other tourism activities

6   Since tourism is one of the prominent economic activity in our survey villages, we have segregated whole service sector into tourism and non-tourism service sector.

include photographers, tourist guide, tout, and tourist agents. Tourism though an informal sector provides great employment opportunities for male workers and it is also considered as the 'last resort' source of employment in the sense that rural youth who are unable to find jobs in other sector rely on tourism sector. Tourism having low entry barriers in terms of skills and education is found to be equally accessible to both poor and rich section of the society but their level of earnings may vary largely depending on their investment capability and skills.

Choice of Non-farm Employment and its Determinants

Here we have modelled two types of situations (i) whether an individual is involved in non-farm activities, and (ii) whether the worker in engaged in casual or, self-employed or regular form of non-farm employment.

Binary Logit Model

Firstly, the determinants of RNFE have been examined using Binary Logit Regression Model. In view of the fact that our dependent variable is a discontinued variable – i.e. whether or not a worker is engaged in non-farm activities, we have used a binary logit model in order to analyse the determinants of involvement in RNFE as a main occupation among workers in sample villages. In logit models, the dependent variable is a dummy (i.e. a dichotomous variable which takes a value of 0 and 1). Here, it takes the value 1 if the worker primary occupation is a non-farm activity and 0 otherwise. The list of explanatory variables considered for regression analysis is given in table 5.

Table 5: List of Explanatory Variables Chosen for Regression Analysis and Their Description

Explanatory Variables	Variable notation	Description
Age	AGE	Age of the person (in years)
Sex	SEX	Sex (M- 0,F-1)
Education	EDU	Educational attainment of the person
Caste	CAS	Caste to which the person belongs (GEN-0, OBC-1, ST- 2, SC-3)
Family Size	FAM	Number of family members
Econ_Status	ECO	Whether household belongs to APL/BPL category (APL- 0, BPL-1)
Assets	ASST	Value of all assets except land
Loan	LON	Whether taken loan or not? (YES-1 , NO-0)
Land	LAN	Amount of land owned by household
Vill_Dummy	VILL	Whether household belongs to advanced village? (Advanced-1, backward-0)

The estimated results for choosing non-farm sector employment as against farm sector have been shown in the table 6. It is found that factors like age, sex, land ownership economic status of the household, family size and caste have negative impact on the probability of choosing non-farm activities. Whereas, level of education, asset value, and access to loan and the workers belonging to advanced villages have positively influences the choice of non-farm activities as against farm activities.

A negative and significant coefficient of variable age suggests that the tendency of choosing nonfarm employment is much higher among younger people compared to older

one. Variable sex is also found to be negatively associated with nonfarm employment which implies that women workers in our study villages are less likely to choose nonfarm sector than male workers and the coefficient is statistically significant at 0% level. We find that the level of education of the worker have a significant positive impact on the choice of nonfarm employment implying that higher level of education enables the workers to enter nonfarm sector and as the level of education increases the workers are more likely to shift to higher productive activities of nonfarm sector. One unit increase in the level of education increases the workers likelihood of choosing nonfarm activities by more than 10 percentages.

Value of total asset and access to credit are the significant determinants of nonfarm employment and both the variables are found to have positive impact on the likelihood of choosing nonfarm activities by the workers. This implies that higher asset value and access to credit encourage the workers to enter nonfarm sector in our study areas.

Table 6: Estimates of Binary Logit Regression Model

Variables	B	S.E.	WALD	P-VALUES
AGE	-0.053	0.013	15.837	000
SEX	-2.256	0.286	62.289	000
EDU	0.108	0.032	11.149	0.001
CAS	-0.041	0.29	0.02	0.887
FAM	-0.071	0.081	0.78	0.377
ECO	-0.143	0.302	0.225	0.636
ASST	0.065	0.009	14.786	000
LON	0.734	0.367	3.994	0.046
LAN	-0.401	0.521	32.038	000
VILL	0.375	0.296	1.605	0.205
INTERCEPT	6.611	1.005	43.238	000
-2 log likelihood		Cox & snell r square		Nagelkerke r square
386.052		0.281		0.453

Source: Estimated Using Field Survey Data.

A negative coefficient of land variable implies a negative correlation between the size of land ownership and the probability of being involved in non-farm activities. This means that workers without any land ownership would prefer to work in non-farm activities. It is found that the predominance of landlessness and marginal land ownership in the sample villages have forced the workers to seek non-farm activities, thus indicating a distress-led growth of RNFS in our study villages most specifically in backward villages. The village dummy (advanced villages =1, backward villages =0) is found to have a positive association with the dependent variable of working in nonfarm activities, which implies that the workers in advanced villages are more liable to work in non-farm sector than those in backward villages, as backward villages are socio-economically backward in comparison to advanced villages as captured by various socio-economic indicators. Moreover, the nearness of advanced villages to main town in the region also has certain positive implication on the employment status of the workers.

Choice of different forms of non-farm employment: Multinomial Logit Model

The determinants of the choice of the types of RNFE have been examined using Multinomial Logit Regression Model. We have utilized the same set of previously used

explanatory variables for this model as well. The results of the multinomial logit model for choosing different forms of non-farm activities viz. casual employment, self-employment and regular employment have been shown in Table 7. Workers in agricultural sector have been taken as reference group for this model.

It is found that age and sex of the workers have a negative and significant impact on the probability of choosing all three forms of non-farm employment as against farm employment, indicating that young age workers and male workers are more likely to choose any forms non-farm activities than farm activity. Education is an important factor for getting employment in any sub-sector of NFS. The coefficient of education is positive for all the forms of non-farm employment implying that even a minimum level of education enables participation in any form of NFS. And the coefficient of the variable is significant at only 10% level for casual non-farm works and highly significant for regular employment implying that workers having higher educational qualifications have high probability of choosing regular non-farm activities.

Table 7: Estimates of Multinomial Logit Model

	Casual Employment		Self Employment		Regular Employment	
	B	Std. Error	B	Std. Error	B	Std. Error
CONSTANT	3.326	1.212***	7.822	1.279***	4.983	1.152***
AGE	-0.038	0.016***	-0.062	0.017***	-0.04	0.016***
SEX	-1.523	0.348***	-3.28	0.448***	-3.10	0.363***
EDU	0.068	0.040*	0.005	0.045	0.229	0.042***
CAS	0.008	0.348	0.404	0.395	-0.37	0.346
FAM	-0.066	0.099	0.148	0.108*	-0.07	0.094
ECO	0.309	0.369	0.466	0.39	-0.25	0.369
ASST	0.007	0.992***	0.022	0.919***	0.120	0.453***
LON	1.181	0.405***	0.335	0.577*	0.447	0.469
LAN	-0.021	0.884***	-0.011	0.913***	-0.11	1.01***
VILL	0.889	0.338*	0.316	0.381	0.038	0.343*
Model	Model Fitting Criteria	Likelihood Ratio Tests	Model Fitting Criteria	Likelihood Ratio Tests	Cox And Snell	0.559
	-2 Log Likelihood	Chi-Square	df	Sig.	Nagelkerke	0.584
Intercept Only	1.69E+03				Mcfadden	0.261
Final	1.25E+03	439.477	40	0		

Note: ***= significant at 1% level, **= significant at 5% level, and *= significant at 10% level.
Source: Field Survey, 2013-14.

Similarly, larger family size may encourage the workers to join self-employment but not casual and regular employment, this is partly also because larger family may compel other members of the household to join labour force and undertake some self-employment to supplement household income. Total household's assets and access to loan is found to have a significant and positive influence on the probability of choosing all forms of non-farm activities as compared to farm activities. Ownership to land is found to be an important variable determining choice of non-farm employment. Since, most of the households in our sample villages are landless or marginal land holders, this has also led them to focus on human development through education in order to seek non-farm activities of regular nature.

This is reflected in higher level of educational attainment by household members of our sample villages with no equally success at obtaining regular employment due to lack of employment opportunities in the region. There is a negative correlation between variable land and probability of engaging in all types of non-farm activities. Thus, availability of less land forces the workers to choose non-farm activities of various types as against farm activities. Finally, village dummy is found to be positive and significant for casual employment. The casualization of workforce seems to be dominant in the advanced village compared to the backward villages. This is mainly because of the fact that the advancement of the village provides better employment opportunities both in principal (regular) and subsidiary (casual) activities. Accordingly, the scope of casual workers is found to be higher in the advanced villages.

Conclusions

Apart from exploring the socio-economic features, the article analyses the composition and the determinants of rural non-farm employment in the surveyed villages of Darjeeling district. Binary Logit Model and Multinomial Logit Model have been employed for the purpose of identifying the determinants of choosing non-farm employment by the workers. The socio-economic features of the sample household showed high prevalence of landlessness and sub-marginal land holding (0.01-0.41 acre). The relationship between land holding and the incidence of non-farm employment depicted a negative relationship implying that the marginalisation of landholding in the study area is one of the factors that has pushed the workers towards non-farm activities. Most of non-farm employment in the backward villages of the study areas is found to be of low skilled types, indicative of distress conditions under which the workers take up RNFE. The binary logit model suggested that young aged male workers are more likely to choose non-farm employment than farm employment. Higher education is found to encourage the participation in non-farm sector and factors like household assets and access to credit also played a significant role in selecting non-farm activities by workers, while the negative correlations between land ownership and non-farm activities also highlighted a distress-led growth condition of RNFE especially in backward villages of the study areas. Moreover, the regional differences are also found to play important role in the nonfarm choices of the workers. We have also employed multinomial logit model to identify the factors determining employment in different forms of non-farm activities viz. casual, self-employment and regular non-farm activities, where farm activity is taken as a reference group. The results showed that attainment of higher education is the important factor for choosing regular non-farm activities. Workers belonging to reserved categories are more likely to choose casual and self-employment non-farm activities than farm activities. Large families and ownership to land seem to encourage self-employment. This is because households with some amount of land holdings are likely to involve its labour (particularly women) as self-employed in farm and non-farm activities. Significance of village dummy indicated that the advancement of villages do provide better employment opportunities to its workers.

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