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Rural Livelihood Diversification in West Bengal: Determinants and Constraints[§]

Dilruba Khatun and B.C. Roy*
Institute of Agriculture, Visva-Bharati, Sriniketan - 731 236, West Bengal

Abstract

The study conducted in the state of West Bengal has identified the determinants and constraints to livelihood diversification among different livelihood groups. The study has shown that household-head experience (age), educational level, social status, training, asset position, access to credit, rural infrastructure, agro-climatic condition and the overall level of economic development of a region are the main driving force towards livelihood diversification in the state. The study has also shown that several constraints act as obstacles to livelihood diversification but the nature of these constraints differ across regions and livelihood groups. The resource-poor are particularly vulnerable and unable to diversify because of the entry barriers imposed by their weak asset base. The main constraints faced by the households in diversified area are: poor asset base, lack of credit facilities, lack of awareness and training facilities, fear of taking risk, lack of rural infrastructure, and lack of opportunities in non-farm sector, while the main constraints in less-diversified area are: poor transport facilities, poor asset base, unfavourable agro-climate, lack of credit facilities, lack of awareness and training, and lack of basic infrastructure. The study has suggested the need to develop a number of strategies especially for the poor people to facilitate successful livelihood diversification. This includes the development of rural infrastructure in terms of road, market, electrification, telecommunication, storage facilities, etc. and also institutional innovations to reduce entry costs and barriers to poor livelihood groups. A comprehensive development plan, including increasing the scope for non-farm activities, for the backward regions is most urgent.

Key words: Livelihood diversification, rural development, constraints to livelihood diversification, determinants of livelihood diversification.

JEL Classification: O31, O18, C43, Q16

Introduction

Diversification in rural livelihoods is the subject of conceptual and policy-based research because income from farming has come under pressure due to population explosion (Barrett *et al*., 2001; Davies, 1993; Ellis, 1998; Bryceson, 1999). It is being realized for some time that rural people no longer remain confined to crop production, fishing, forest management or livestock-rearing but combine a range of occupations to construct a diverse portfolio of activities (Dercon and Krishanan, 1996; Ellis, 2000; Unni, 1996). In fact, livelihood diversification is a process by which rural households construct a diverse portfolio of activities and social support capabilities in their struggle for survival and improvement in their standards of living (Ellis, 1998). A recent study by Food and Agriculture Organization (FAO) on farming systems and poverty has suggested that diversification is the most important source of poverty reduction for

* Author for correspondence,
Email: bcroy1969@rediffmail.com

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small farmers in South and South-East Asia (FAO/ World Bank, 2001).

In India, land-based livelihoods of small and marginal farmers are increasingly becoming unsustainable, since their land is no longer able to meet the requirements of food for the family and of fodder for their cattle (Hiremath, 2007). As a result, rural households are forced to look towards alternative sources of income. The Situation Analysis Study of Indian Farmers conducted by the National Sample Survey Organization (NSSO) has revealed that about 27 per cent of the farmers do not like farming as it is not considered profitable; and given a chance, nearly 40 per cent farmers would prefer to take up livelihood activities other than farming (Kumar *et al*., 2006).

The present study has been conducted on West Bengal since economy of this state is diversifying at a faster rate than at all-India level (Singh *et al*., 2006). Despite dominance of crop agriculture in West Bengal, it is striking that only 41 per cent of the workforce now depends on agriculture for livelihood (WBHDR, 2004). Widespread and increasing reliance on non-farm activities is an emerging feature in West Bengal, but statistics also point to the fact that at the aggregate level, the job creation has shifted to more of casual and marginal works (WBHDR, 2004). Why it is so? What are the factors that determine the level of diversification of the rural households in West Bengal? What are the various constraints to livelihood diversification? The present study is an attempt to answer these questions.

Data and Methodology

Sources of Data and Sampling Design

The study was conducted in the state of West Bengal during the period 2008-2010. Two districts were selected purposively, one representing a more diversified (Burdwan) and the other less diversified agriculture (Purulia) based on diversification indices (Khatun, 2010). Then, one sub-division from each district, one block from each sub-division, and two villages from each block were selected randomly. The selected villages were Barampur and Debogram in the Burdwan district and Narayanpur and Goaladi in the Purulia district. Finally, 50 households from each village were selected randomly in probability proportionate to major livelihood groups in the study villages. These households were then categorized into seven different livelihood groups, viz. Agricultural and allied activities, Agricultural labourer, Non-agricultural labourer, Salaried group, Casual labourer, Petty business, and Others, based on their primary source of income.

Definitions

Livelihood diversification – Livelihood diversification is defined as a process by which household members construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standards of living (Ellis, 1998). Accordingly, in this study livelihood diversification refers to the attempts by individual and households to find new ways to raise incomes and reduce vulnerability to different livelihood shocks. Livelihood diversification can take place through both agricultural diversification i.e., production of multiple crops or high-value crops; and non-agricultural livelihood diversification i.e., undertaking small enterprises, or choosing non-agricultural sources of livelihood like casual labour or migration.

Livelihood diversification index – There are various indicators, and indices are there to measure livelihood diversification like number of income sources and their share, Simpson index, Herfindahl index, Ogive index, Entropy index, Modified Entropy index, Composite Entropy index (Shiyani and Pandya, 1998), etc. In this study Simpson index is used because of its computational simplicity, robustness and wider applicability. The formula for Simpson index is given below:

$$S.I. = 1 - \sum_{i=1}^{N} P_i^2$$

where, N is the total number of income sources and P_i represents income proportion of the i-th income source. Its value lies between 0 and 1. The value of the index is zero when there is a complete specialization and approaches one as the level of diversification increases.

Analytical Tools

Regression Analysis

To identify the major drivers of livelihood diversification, multiple regression analysis was carried out using Equation (1):

Table 1. Description of explanatory variables used in regression analysis

Variable name	Definition
LDI	Livelihood diversification index (Simpson *100)
Age	Age of household-head in years
Dependency ratio	Percentage of household members below 18 and above 60 years
Education	Average years of education in a household
Family size	Total number of members in a household
Land-man ratio	Cultivable land per working member in a household (acre)
Asset value	Estimated value of all the physical assets(except land) owned by a household (in lakh rupees)
Irrigation	Percentage area irrigated
Distance	Distance from the nearest town (km)
Borrowing	Credit/loan taken by a household during the past three years (in thousand rupees)
Membership	Dummy, whether a household is a member of a formal social organization like SHG/Co-operative/ Village Committee, etc.
Training	Dummy, whether a household member has received any formal training on livelihood skill development
Regional dummy	Dummy, whether or not the household belongs to the highly diversified district (Burdwan)

$$D = \beta_0 + \beta_i X_i + \mu \qquad \ldots(1)$$

where, D is the dependent variable representing Livelihood Diversification Index, explained by β_i which represents a vector of parameters, and X_i is a vector of exogenous explanatory variables. Descriptions of the explanatory variables are given in Table 1.

Constraint Analysis

It was done through rapid rural appraisal (RRA) and focused group discussion (FGD) in all the four villages after finalizing twelve constraints to livelihood diversification for interrogation from the sampled households. These constraints are measured at five point scale for their severity.

Results and Discussion

The main livelihood groups, their level of livelihood diversification and contribution of different sources of income in the study area are given in Table 2. A perusal of Table 2 shows that the level of diversification is highest for salaried group as well as agriculture and allied activities group. In general, the livelihood is less diversified for the labourer groups. Salaried group and cultivators are in a better position, perhaps due to their stronger asset base. Resource-poor households in the study area lack assets, skill and education which hinder them from engaging in remunerative activities (Khatun, 2010). So they are forced to diversify in low-return activities for survival.

Determinants of Livelihood Diversification

It was hypothesized that the livelihood diversification index is a function of a set of factors that included following variables in the model: age, education, family size, dependency ratio, land-man ratio, asset value, irrigation facility, borrowing, distance from town, training/skill development, membership of social bodies, and regional dummy.

Age – Since in a rural society livelihood decisions are mostly taken by a household-head, we have considered the age of household-head only and it was hypothesized that the household with a younger head will have higher desire and access to non-farm activities.

Dependency Ratio – It is the ability of a household to meet its subsistence needs and as dependency ratio increases, the ability to meet household needs decreases and probability of diversifying livelihood to non-farm activities increases. Therefore, the relationship between livelihood diversification and dependency ratio was hypothesized to be positive.

Education – To capture the effect of education, the average education of all the members in a household was considered. The relationship between livelihood diversification and education was hypothesized to be positive.

Table 2. Level of livelihood diversification and income sources for different livelihood groups in West Bengal

Livelihood groups	Simpson index	Average income (₹/year/HH)	Share of different livelihood activities in household income (%)										
			Crop farming	Live-stock rearing	Poultry/ Duckery	Agricul-tural labour	Non-farm wages	Salary income (Govt.+ Pvt.)	Casual labour	Petty business	Remit-tances	Migra-tion	Others
Burdwan district													
Agriculture and allied activities	0.5768	64658	65.08	3.47	0.81	3.56	0.63	0.33	0.35	12.13	3.71	0.88	9.05
Agricultural labour	0.5682	20431	18.75	4.76	0.08	56.96	2.81	0.00	3.04	1.22	0.00	0.00	12.37
Non-agricultural labour	0.5133	31188	29.43	2.00	0.00	3.42	46.89	0.00	4.12	1.71	0.00	4.28	8.16
Salaried group	0.6111	165666	19.56	1.77	0.02	0.00	0.05	49.50	0.00	2.94	19.16	5.29	1.72
Casual labour	0.5560	34258	11.97	5.59	0.10	5.89	0.00	14.59	57.95	0.00	0.00	0.00	3.91
Petty business	0.5832	33190	26.90	0.60	0.00	5.02	0.00	0.00	0.00	48.26	0.00	0.00	19.22
Others	0.4268	66854	12.68	0.00	0.00	0.00	0.00	15.71	2.74	0.00	0.00	62.92	5.95
All occupation	0.5615	55591	41.57	2.89	0.41	7.66	2.95	13.64	3.01	7.70	6.38	6.45	7.34
Purulia district													
Agriculture and allied activities	0.3223	28833	49.48	0.00	0.00	0.00	17.92	6.94	0.00	0.00	11.22	0.00	14.45
Agricultural labour	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-agricultural labour	0.1556	28765	3.30	0.35	0.00	2.14	65.38	0.00	7.55	0.00	0.00	15.84	5.45
Salaried group	0.2682	85824	1.34	0.40	0.00	0.00	0.54	93.17	0.00	0.00	1.34	0.00	3.21
Casual labour	0.1326	31500	2.26	0.00	0.00	0.00	29.31	0.00	57.29	0.00	0.00	8.28	2.86
Petty business	0.1397	57250	2.11	0.99	0.00	0.00	5.95	0.00	0.00	90.95	0.00	0.00	0.00
Others	0.2755	39000	2.26	3.77	0.00	0.00	12.57	0.00	2.82	4.52	0.00	14.55	59.51
All occupation	0.2063	41154	3.76	0.75	0.00	0.71	24.99	40.33	4.25	7.51	0.95	6.94	9.81

Source: Field survey

Family-size – Family size is an important factor for livelihood diversification. Reardon (1997) had observed that family size affects the ability of a household to supply labour to the farm. In a large family some members could remain engaged in traditional farming while others could opt for non-farm activities. It will also reduce the risk of livelihood failure. We therefore hypothesized a positive relationship between livelihood diversification and family size.

Land-man Ratio – Land-man ratio being the per capita availability of cultivable land, a decrease in its value creates overpressure on land which in turn results in disguised unemployment in agriculture (i.e., workers having very low or zero marginal productivities). As a consequence, this surplus labour will try to find jobs in the non-farm sector. So we hypothesized the relationship between livelihood diversification and land-man ratio to be negative.

Asset Value – Individuals' own asset base helps both directly and indirectly in livelihood diversification. Asset offers a store of wealth as well as provides an opportunity to invest in alternative enterprises. Several researchers have noted that the lack of asset base creates an entry level barrier for the resource-poor households in diversifying their livelihood options particularly towards high-end remunerative non-farm activities. Therefore, we hypothesized a positive relationship between diversification and asset value.

Irrigation – Irrigation opportunities make multiple cropping possible which will create agricultural surplus. This surplus can be used for doing non-farm activities, particularly self-employment activities. So we hypothesized the relationship between livelihood diversification and irrigation to be positive.

Distance – Geographic variables are also important determinants of livelihood diversification. Proximity to market or town has a significant influence on livelihood diversification and increases the prospects of non-farm employment for the rural households. Thus, the relationship between livelihood diversification and distance to the nearest town was hypothesized to be negative.

Borrowing – The actual borrowing from institutional as well as non-institutional sources is considered as a determinant of livelihood diversification. It was relevant to hypothesize a positive relationship between livelihood diversification and institutional credit.

Membership – Membership of a formal social organization like Self-help Group (SHG)/co-operative/ village committee, etc. is an important social capital in determining livelihood diversification. Membership of a SHG elevates his/her social status and increases access to common property resources as well as different government/NGO schemes. Therefore, we hypothesized a positive relationship between livelihood diversification and membership of social organization.

Training – Most of the non-farm activities being skill based, training increases the possibility of getting non-farm jobs. Therefore, a positive relationship was assumed between livelihood diversification and training.

Regional Dummy – The incentives to diversify may vary due to agro-ecological characteristics and socio-economic development of a region. To capture the effect of differences in agro-ecological and socio-economic development between two regions of our study on livelihood diversification, we used a regional dummy. The dummy assumes the value '1' if the households belong to a more developed region (i.e., Burdwan) and '0' otherwise (i.e., Purulia). We therefore hypothesized that the relationship between livelihood diversification and regional dummy to be positive.

Regression Results

The results of our regression estimates are presented in Table 3. The adjusted R^2 value as well as F-value appeared to be quite reasonable and all the estimated co-efficients, except two, namely age and dependency ratio, have the expected signs and are statistically significant.

Age has been found to have a significant and positive influence on farmers' livelihood diversification options. In other words, multiplicity of activities increases with advancing age. It is contrary to the results obtained in previous studies, which may be explained in two ways: First, experience increases with age, consequently, experienced persons have more prospects of getting jobs in the non-farm sector. The second explanation is that we have taken the age of family-head alone and out of 200 samples in our study, most of the household-heads were middle aged.

In contrary to our hypothesis, dependency ratio was found to be negatively related with the level of

Table 3. Determinants of livelihood diversification in West Bengal

Variables	Co-efficients	Standard error
Intercept	17.3008*	5.7677
Age	0.1637**	0.0746
Dependency ratio	-0.2404*	0.0551
Education	0.6392**	0.3150
Family size	0.4473	0.5015
Land-man ratio	-1.2963*	0.5038
Asset value	1.0780*	0.4181
Irrigation	0.1865*	0.0474
Distance	-0.2053	0.2162
Borrowing	0.1325**	0.0605
Membership	7.8322*	2.2103
Training	7.2092*	2.3972
Regional dummy	15.3407*	4.8273
Adjusted R^2	0.7266	
F -value	45.0736	
No. of observations	200	

Note: * and ** denote significance at 1 per cent and 5 per cent levels, respectively

diversification. The possible explanation could be that an increase in dependency ratio increases the number of household members below 18 years and above 60 years who are unable to engage themselves in some activities. This means shortage of working hands to earn from diversified activities for meeting household needs.

As expected, the educational level was found to be one of the important determinants of livelihood diversification. As elsewhere in India, in West Bengal too education is an important barrier to entry in the non-farm sector, particularly for salaried jobs and petty business. The highly educated persons diversify their livelihood options through opting for salaried jobs, self-employment activities, etc., whereas low-educated and illiterate persons engage themselves in wage earning. Therefore, investing in education and increasing access to higher education will help the rural households in getting alternative income. Improvement in the educational level will increase the probability of engagement in rural non-farm activities and livelihood diversification.

In line with our expectation, family-size was found to be positively related with the level of livelihood diversification but the co-efficient was not statistically significant. But land-man ratio turned out to be an important and statistically significant determinant of livelihood diversification. As expected, the relationship between the land-man ratio and diversification level was found to be negative.

The value of physical assets owned by a household was found to have a significant and positive effect on the level of livelihood diversification. Asset base is one of the limiting factors towards livelihood diversification in the rural West Bengal.

Rural infrastructure, particularly irrigation infrastructure and marketing infrastructure (proximity to town) were found to be significant determinants for livelihood diversification in the study area.

Borrowing, which is an indicator to both availability of and access to formal credit was found to have a positive effect on the level of livelihood diversification. The relationship between borrowing and level of diversification was again on the expected line. The co-efficient was statistically significant at 1 per cent level of significance. Since resource-base is very poor for most of the rural households, providing credit to households will improve their livelihood.

As expected the relationship between livelihood diversification and membership of a cooperative society as well as training was found positive and statistically significant. The same was true for regional dummy. The sign of estimated coefficients for regional dummy was positive and statistically significant at 1 per cent level of significance which implies that *ceteris paribus* the households residing in the advanced region (Burdwan) of the study area have more diversified livelihood than those in the backward region and it is because of difference in the location-specific agro-climatic and socio-economic factors.

In nutshell, it may be concluded that the rural households in our study regions are likely to have a diversified livelihood when they have more experience (age) and better skill (training), more working hands, higher educational level, some physical assets, and access to credit facilities. The scope for livelihood diversification also gets boosted when there are better irrigation facilities and proximity to urban market. Membership of a formal social organization also helps in diversifying the livelihood portfolio. Finally, agro-climatic condition and overall socio-economic

Table 4. Rank of some major constraints to livelihood diversification in the Burdwan district

Constraints	Score	Rank	Most vulnerable groups
Asset/capital	3.99	I	Petty business, Others
Credit problems	3.75	II	Others, Non-agricultural labourer
Lack of awareness and training	3.73	III	Casual labourer, Petty business
Fear of taking risk	3.41	IV	Petty business, Casual labourer
Lack of infrastructure	3.24	V	Petty business, Casual labourer

development of an area have a strong influence on the rural livelihood diversification.

Constraints to Diversification

Livelihood diversification is an important survival strategy for the rural households in the developing countries. However, there are several constraints to successful livelihood diversification. Identification of constraints for a particular agro-ecological region is crucial for future policy formulation. This study has identified some of the socio-economic, technological, institutional and policy constraints to livelihood diversification. These constraints have been found to vary across regions as well as across livelihood groups. The results are discussed below.

Constraints to Livelihood Diversification in Burdwan District

The major constraints to livelihood diversification in the Burdwan district were: poor asset base, lack of credit facilities, lack of awareness and training facilities, fear of taking risk, lack of rural infrastructure, and lack of opportunities in non-farm sector (Table 4).

Poor Asset Base – It is the most important constraint to livelihood diversification in this district. Possession of even a small asset enables the households to take opportunities in the non-farm sector, particularly in the self-employment sector. For example, ownership of a sewing machine may induce a person to start his own tailoring business. Similarly, possession of a bicycle may help the worker in going to the nearby town for non-agricultural employment. Most of the landless and small farmers in this area do not have any asset which acts as a big barrier to livelihood diversification.

Lack of Credit Facilities – Lack of access to institutional credit is a deterrent factor in livelihood diversification in the study area. In the absence of credit support from the institutional agencies, the resource-poor households are not able to start their own non-farm business or enterprises. Katona-Apte (1988) had reported the vital role played by the Bangladesh Grameen Bank in providing credit to women which enabled them to carry out diversification activities. Many households in the study area reported that after completion of training, provided by the private or government agencies on some self-employment activities, they could not start their own business due to lack of finance/credit.

Lack of Awareness and Training – Rural households in our study area are unaware about the schemes provided by the government for the development of rural sector. There is no government mechanism, nor any NGO to inform the rural households regarding these schemes.

Fear of Taking Risk – Because of poor asset-base and lack of institutional support, the risk-bearing ability of the rural households is very low.

Lack of Infrastructure – Infrastructure has an influential role in the development of rural livelihoods. Improved communications help easy access to market which is important for both buying and selling of goods and services and for getting non-farm jobs.

Lack of Opportunities – Opportunities for non-farm jobs, within or around the sample villages, are very low. Therefore, the households do not have much scope to diversify their livelihood portfolio.

Constraints to Livelihood Diversification in the Purulia District

The major constraints to livelihood diversification in the Purulia district were: poor transport facilities, poor asset base, unfavourable agro-climate, lack of credit facilities, lack of awareness and training, and lack of basic infrastructure (Table 5).

Table 5. Major constraints to livelihood diversification in the Purulia district

Constraints	Score	Rank	Most vulnerable groups
Road and transport problems	4.10	I	Petty business, Agriculture and allied activities
Asset/capital problems	3.61	II	Agriculture and allied activities, Non-agricultural labourer
Credit problems	3.53	III	Agriculture and allied activities, Non-agricultural labourer
Lack of awareness and training	3.45	IV	Agriculture and allied activities, Non-agricultural labour
Lack of infrastructure	3.37	V	Agriculture and allied activities, Others

Lack of Road Network and Transport Facilities – Purulia is one of the backward districts of West Bengal. The transport network is very poor. Most of the villages are situated far from the pucca roads. The villagers have to cross a distance of 9-10 km to reach the main road to avail bus or any other public transport facility. So they cannot travel to urban centres easily. This poses a serious obstacle to improvement in their livelihood strategy.

Poor Asset Base – Extreme poverty and widespread unemployment are the common features of Purulia. Per capita income of the Purulia district is lowest in the state. Low per capita income results in low level of capital formation. Poor asset base hinders the rural households to take up any self-employment activity.

Agro-climate – Along with poor transport network, the agro-climate of the district is highly unfavourable. Frequent droughts, extreme temperatures, erratic rainfall, and water scarcity prevent the rural households to move from one place to another in search of livelihood.

Lack of Credit – The poor households in the rural area need credit facilities to develop their livelihood strategy. Without access to institutional credit they are not able to undertake any income-generating activity which requires some initial investment. As a consequence, they are forced to engage themselves in less remunerative non-farm work and wage work. Many households could not get loans for lack of collateral requirements of the financial institutions. They are forced to borrow from a money lender at a high rate of interest (100-120 per cent and compounded yearly).

Lack of Awareness and Training – Most of the villages in the Purulia district are located in highly interior region where communicating system is very poor. As a result, rural households have no information regarding modern income-generating activities. They remain engaged with their traditional activities like wage work, rural artisan, caste occupation, etc. They have neither information nor formal training on modern activities like machine knitting and hosiery, dyeing and printing, brassire manufacturing, etc. Also, they have no access to information facilities from the government institutional system.

Lack of Infrastructure – Basic infrastructure like electricity and water supply has an important role in the development of a region. Because of poor infrastructure, Purulia is one of the industrially-backward districts of West Bengal. There are only two large industries in this district. As a result, rural households have little or no opportunity in the non-farm sector. Though the district is enriched with many natural resources, industries are not developed in this region because of infrastructural bottlenecks. As a result, virtually no scope exists for the rural households to diversify their livelihood.

To sum up, the principal constraints faced by the rural households in the study area are of different kinds. While most of them are socio-economic in nature, some constraints are of agro-ecological nature. Spatial variation leads to cross-sectional heterogeneity, thereby influencing livelihood diversification pattern. Property rights in productive assets such as land and livestock, labour resource, and access to credit differ across livelihood groups. Therefore, though all the livelihood groups face these constraints, the severity is more for the landless/labourer groups and least for the resource-rich class. Such constraints not only impede demand pull diversification into remunerative activities; they also compel diversification into low-return non-farm wage earning activities.

Summary and Policy Implication

The study conducted in the districts of Burdwan and Purulia of West Bengal has concluded that the rural households in these regions are likely to have a diversified livelihood when they have more experience (age) and better skill (training), more working hands, higher educational level, some physical assets, and access to credit facilities. The scope for livelihood diversification also gets boosted when there are better irrigation facilities and proximity to urban market. Membership of a formal social organization also helps in diversifying the livelihood portfolio. Finally, agro-climatic condition and overall socio-economic development of an area have a strong influence on the rural livelihood diversification. The regression analysis has shown that household-head's experience (age), educational level, asset position, dependency ratio, social status, training, access to credit, irrigation network, agro-climatic condition and the overall level of economic development of a region are the main driving force towards livelihood diversification in the study area.

The principal constraints faced by the rural households are of various kinds. While most of them are socio-economic in nature, some constraints are of agro-ecological nature. The main constraints faced by the households in the more diversified area are: poor asset base, lack of credit facilities, lack of awareness and training facilities, fear of taking risk, lack of rural infrastructure, and lack of opportunities in non-farm sector, while the main constraint in less-diversified area are: poor transport facilities, poor asset base, unfavourable agro-climate, lack of credit facilities, lack of awareness and training, and lack of basic infrastructure. The study has made following policy recommendations:

First, since lack of credit facilities and poor access to institutional credit are overwhelmingly acknowledged as the important constraints inhibiting livelihood diversification, the rural financial systems need to be revamped. The microfinance revolution, as observed in Bangladesh, can be a model in this regard but the replicability and efficacy of such a model is still uncertain.

Second, education is an effective means of increasing the livelihood diversification strategies as it relaxes the entry barriers to different remunerative non-farm activities, particularly salaried jobs. There is little doubt that rural education in West Bengal, as elsewhere in India, is under stress and facing a tough challenge from the urban education system. Targeting of education and skill development trainings towards poor households in the rural areas is likely to have a relatively large impact on their ability to diversify livelihood options.

Third, efforts should be made to make remunerative non-farm opportunities accessible to the rural households, particularly in the backward regions of West Bengal. This includes the development of rural infrastructure in terms of road, market, electrification, telecommunication, storage facilities, etc. and also institutional innovations to reduce entry costs and barriers to poor livelihood groups.

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