

**LIVELIHOOD DIVERSIFICATION IN NON-FARM ENTERPRISES
AND ITS IMPACT ON UNIDIMENSIONAL POVERTY STATUS OF
FARM HOUSEHOLDS**

*5. Livelihood Diversification in Non Farm Enterprises and its Impact of Uni
Dimensional Poverty Status of Farm Households in Rural India*

5.1. Introduction

Poverty remains a major global challenge. Consequently, the first aim of Sustainable Development Goal (SDG) is at eradication of poverty. Between 1990 and 2015, extreme poverty in the developing world declined from 47 percent to 14 percent (United Nations, 2015). The 2015 Millennium Development Goals (MDGs) report also points out that much of the advancement towards eradicating extreme poverty was achieved in the year 2000 and beyond (United Nations, 2015). This same period saw the intense advocacy of diversification into nonfarm activities by farm households in rural areas of developing nations (Barrett et al., 2001; Davis, 2006; Senadza, 2012; Senadza, 2014).

Livelihood diversification of farm families towards non-farm enterprises which are more remunerative, and create a flow of revenue and supply a cushion against climate spikes have been promised to be an important pathway to decrease poverty. The requirement for non-farm enterprises opportunities are income elastic and continues to be growing faster, and generating prospects for rural farm households to diversify their revenue portfolio.

In theory, literature reveals that “demand-pull” and “distress-push” factors motivate farm households to diversify into nonfarm activities (Davis, 2006). Among such factors considered as “demand-pull” include; higher returns from nonfarm activities, appeal of urban life, extra incomes to meet household needs (Barrett et al., 2001). Distress-push diversification, on the other hand, is triggered by factors such as inadequate farm output, failure of farm input markets, population growth, disasters and shocks, risk reduction, absence of financial services, and inadequate resources (Barrett et al., 2001). Although Davis (2006) discloses that the distinction between the “demand-pull” and “distress-push” factors is not explicit, he emphasizes the need to distinguish between these factors for effective policy.

Stress in Indian agriculture increases due to various reasons, such as continued fragmentation of land and climate change, there is a serious threat to livelihood based on agriculture. This is especially true for small farmers. The growth of rural populations and limited employment opportunities in the nonfarm sector has led to the subdivision of land ownership in India to the extent that they cannot provide sufficient living means to the majority of farm households. In this context, diversification into rural non-farm enterprises (NFEs) may be a possible strategy to improve livelihoods. The question then arises: is that the demand-driven expansion in non-farm enterprises pro-poor? With this vision, this study was conducted to examine the livelihood diversification of farm households in non-farm enterprises (NFEs) and its impact on escaping from and falling into poverty.

5.2. Review of Literature

A significant wave of debate in recent times highlights two aspects of poverty. First, the household dynamics describing the status of poverty and second, the traits explaining transient and escaping poverty (Thorat et al. 2017). In addition, empirical analyses of the importance of farm-nonfarm diversification have been conducted in many rural areas of developing nations. Among these studies, the impact on household food security, agricultural expenditure, and well-being are the most notable (Owusu et al., 2010; Jabo et al., 2014; Shehu & Siddique, 2014; Osarfo et al., 2016).

In India, though, poverty has decreased considerably, from 35 percent in 1994 to 22 percent in 2012 (Narayan & Murgai, 2016), it remains widespread in rural locations, where dwell about 80 percent of the nation's overall poor. Agriculture is the main source of livelihood for rural households, but over 85 percent of farmers possess a tiny piece of land not exceeding 2 hectares. They are resource poor, mainly engaged in agricultural and low wage economic activities. Chand et al. (2011) stated that if agriculture were the main wellspring of income for small landholders, the majority of them would stay poor.

The majority of significant studies on rural poverty in India have researched the value of non-farm activities in poverty reduction employing the cross-sectional statistics, and/or methodology employed in these studies suffer in the selection biases, which modulates the dynamic character of poverty as well as the factors responsible for changes in poverty status. To put it differently, it is hard to comprehend who have escaped poverty or who have fell in poverty. This chapter analyses the role of livelihood diversification of farm households in non-farm enterprises in poverty dynamics.

5.3. Estimation Procedure

5.3.1. Data

For the both rounds of IHDS data, the monthly per capita consumption expenditure was contrasted with the official poverty line as provided by the Tendulkar Committee, and consequently, the households are classified as poor and non-poor. The identical process was followed closely by Thorat et al. (2017) to ascertain the energetic poverty procedures in the context of cased based discrimination. Within our investigation, we evaluate the poverty status of a farm household in 2011-12 using its standing in 2004-05. The poverty status of a farm household in the time intervals has been compared to be aware of the percentage of households who (i) stayed poor, (ii) stayed non-poor, (iii) escaped from poverty, and (iv) fell into poverty. The poverty dynamics i.e., in and out of poverty, have been evaluated in connection with a farm household's participation in rural non-farm enterprises.

5.3.2. Methodology

We started examining poverty dynamics through cross-tabulations of who escaped and who fell into poverty by livelihood diversification groups i.e. who diversified their livelihood in rural non-farm enterprises and those who did not diversified. We compare poverty involving those groups comparing its prevalence concerning percentage, but it could be misleading if the groups are at various degrees of poverty. Therefore, we follow the probit

regression strategy that offers the likelihood of escaping from or falling into poverty. We quote three probit regression models: (1) lagged probit regression for assessing overall poverty transitions, and (2) next probit regression model was individually developed for households who escaped from poverty and (3) that fell into poverty. These versions could be written as:

$$P_t = \alpha + \beta X_{t-1} + \gamma P_{t-1} + u_t \quad (5.1)$$

$$P_1 = \alpha + \beta_1(\textit{diversified}) + \beta_2 X_{t-1} + u_t \quad (5.2)$$

$$P_2 = \alpha + \beta_1(\textit{diversified}) + \beta_2 X_{t-1} + u_t \quad (5.3)$$

where, P_t is that the poverty status of a farm household in 2011-12 and P_{t-1} is the poverty status in 2004-05. X_{t-1} is a group of control factors like religion, caste, education of household head, land holding, household size, quintiles of income and consumption etc. P_1 signifies whether a farm household escaped from poverty or not (equation 5.2), and P_2 signifies whether a household fell into poverty or not (equation 5.3), u_t is the stochastic error in every equation.

5.4. Results:

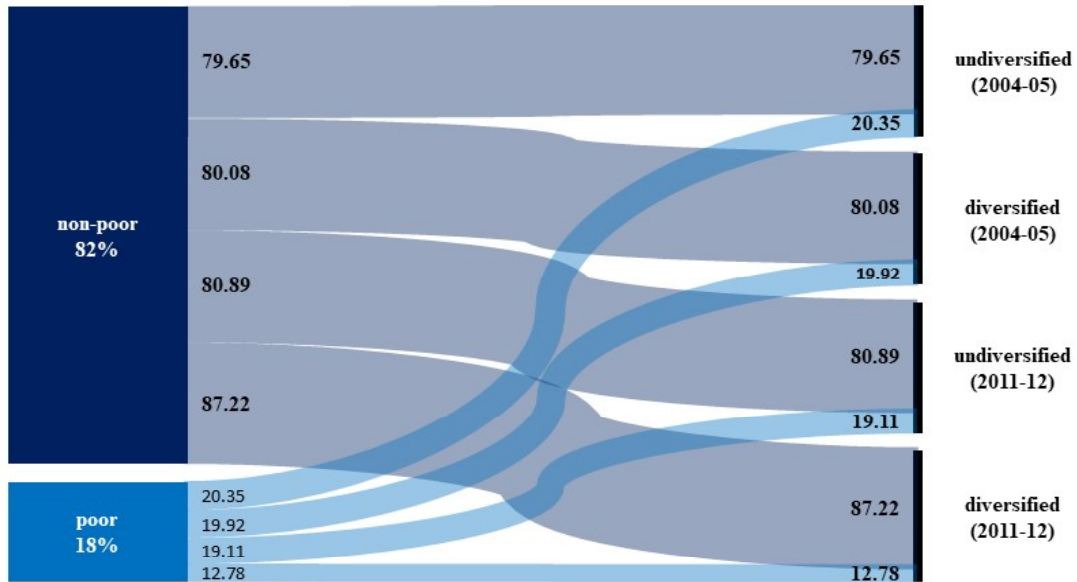
5.4.1. Descriptive Statistics

Our results reveal a decrease in rural poverty among farm households from 20.50 percent in 2004-05 to 17.27 percent in 2011-12. On the other hand, the farm households that did not diversify in non-farm enterprises in 2004-05 had not much difference in the proportion of poor (20.35 percent) as compared to diversified farm households (19.92 percent). However, in case of 2011-12, a significant decline in the poverty can be observed where 19.11 percent and 12.78 percent poverty status has been calculated for undiversified and diversified farm households respectively.

Among the factors for the decrease in poverty might be a greater rate of escaping poverty from the formerly poor compared to speed of falling into poverty from the formerly non-poor. Of the entire rural farm households, 14.08 percent escaped poverty and 10.27

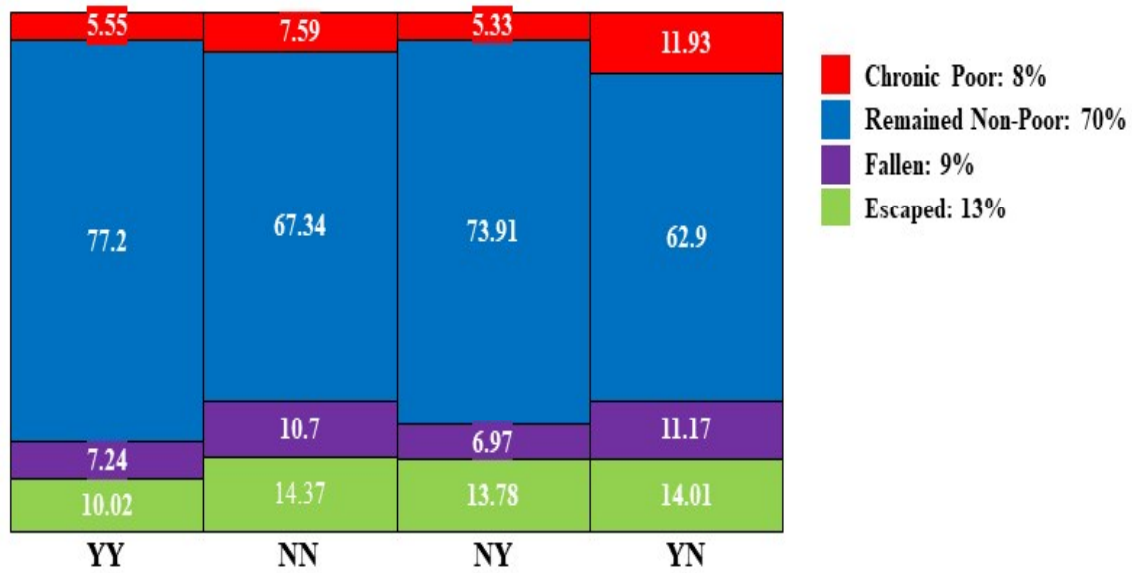
percent fell into poverty. Hence, we could declare that rural poverty considerably shrunk and have demonstrated transitory poverty. On the flip side, there are 7.74 percentage of farm households who could not escape poverty and stayed poor.

Figure 5.1: Poverty Status of Diversified and Undiversified Farm Households



The share of households who escaped and fell into poverty might have been different among those who diversified their livelihood in non-farm enterprises and those who did not diversify. We have classified diversified farm households into four groups: (i) YY – who diversified in 2004-05 as well as in 2011-12, (ii) NN – who did not diversify in 2004-05 as well as in 2011-12, (iii) NY – who did not diversify in 2005-05 but diversified in 2011-12, and (iv) YN – who diversified in 2004-05 but not in 2011-12. Figure 5.2 shows poverty across livelihood diversification groups of farm household. Interestingly, the largest share (77.2 percent) of those remained non-poor was from YY group (those who diversified in 2011-12 as well as in 2004-05). However, the proportion of those falling into poverty was the least for NY group (6.97 percent).

Figure 5.2: Poverty Status Across Livelihood Diversified Groups



It is apparent that more non-poor farm households are those who diversified their livelihood in non-farm enterprises. The farm households who diversified in 2004-05 and also in 2011-12 have been remained non-poor and this group shows significant escaping from poverty (13.78 percent). the question then arises, whether the livelihood diversified in non-farm enterprises additionally help to determine the rates of falling and escaping poverty.

5.4.2. Econometric Results

The descriptive statistics provides an indication of the role of livelihood diversification of farm households in non-farm enterprises in poverty reduction. However, there could be several other factors that may influence poverty status of the farm households. In our poverty regression, we include some of the important factors as control variables along with livelihood diversification in non-farm enterprises in the set of explanatory variables.

Table 5.1: Regression Analysis of Poverty Status and Transitions among Farm Households

	Poverty in 2011-12	Escaping from Poverty	Falling into Poverty
poverty status 2005	0.434***		
Livelihood Diversification in Non-Farm Enterprises			
NN_NFE		-0.0418***	0.28***
NY_NFE		-0.166***	-0.0686**
YN_NFE		-0.245***	0.447***
Religion			
Muslim	0.0522	-0.228	0.0364
Christian	-0.113	0.00465	-0.23
Sikh	-0.941*	1.434	-1.162**
others	-0.599***	0.0128	-0.610**
Caste			
OBC	0.222**	-0.0567	0.190*
SC	0.433***	-0.184	0.343**
ST	0.669***	-0.376**	0.452***
Household Size			
4 to 5	-0.292**	1.421***	-0.203
6 to 7	-0.584***	2.661***	-0.193
8 to 9	-0.896***	3.695***	-0.171
10 & above	-1.170***	5.421***	-0.185
Household head Education			
1 to 5	0.0989	-0.184	0.067
6 to 10	-0.492**	-0.13	-0.465**
11 to 12	-0.599**	1.166**	-0.785**
graduation & above	-.806*	0.466	-0.848*
Land Class			
small	0.00542	0.313**	0.0879
medium	0.155	0.193	0.168
large	0.553***	0.0296	0.522***
Income Quintiles			
second	-0.0809	0.0861	-0.178
third	-0.296***	0.011	-0.263*
fourth	-0.516***	0.0435	-0.577***
Consumption Quintiles			
second	-0.318***	0.393***	-0.783***
third	-0.557***	0.228***	-0.868***
fourth	-0.866***	0.448***	-0.785***
livestock ownership	-0.113	0.125	-0.175
_cons	-1.638***	-2.232***	-2.594***
N	8642	8708	8644

Note: Significance level of the difference: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Omitted groups: Livelihood Diversification: YY_NFE. Religion: hindu. Caste: general. Household Size: 1 to 3. Education: illiterate. Land Class: marginal. Income Quintile: First. Consumption Quintile: First

The first column of table 5.1 signifies odd of a farm household becoming poor in 2011-12, controlling for the household characteristics. The likelihood of becoming poor reduces by 11.3 percent with the ownership of livestock. This confirms the observation of Birthal & Negi (2014) who discovered that at comparable rate of expansion, in comparison to agriculture that the livestock has a bigger impact on poverty reduction. Further, farm household belongs to Muslim, community have 5.2 percent higher chances of becoming poor as compared to those who belongs to Hindu community. Similarly, farm household belongs to other backward castes, scheduled caste, and scheduled tribes have 22.2 percent, 43.3 percent, and 66.9 percent respectively, higher chances of becoming poor as compared to farm households who belongs to forwarding castes. The odd ratios of lagged logistic regression (equation 5.1) also suggests with higher education of household head, the chances of a farm household to become poor are less by 49.2 percent, 59.9 percent, and 80.6 percent for 6 to 10, 11 to 12, and graduation & above level of education respectively. These results indicate a vital connection of poverty together with social standing and individual capital, and indicate the need to concentrate poverty reduction efforts more on lower castes and investment in human capital for sustainable decrease in poverty.

Further, we probe the role of livelihood diversification in escaping poverty and falling into poverty. Column (2) and Column (3) in table 5.1 represent results of logistic regressions for escaping poverty and falling into poverty respectively. In column (2), our dependent variable is whether the previously poor farm households had escaped from poverty or not. The explanatory variables include all the control variables discussed in terms of column 1 and status of livelihood diversification in non-farm enterprises. As expected, NN (who did not diversify in 2004-05 and 2011-12), NY (who did diversify in 2011-12 but not in 2004-05), YN (who did diversify in 2005-05 but not in 2011-12) had 4.1 percent, 16.6 percent, and 24.5 percent lesser chances of escaping from poverty than those farm households who diversified their livelihood in non-farm enterprises in 2004-05 as well as in 2011-12. However, the results

of whether previously non-poor households fell in poverty or not are reported in column (3) of table 5.1. The results show that livelihood diversification status of NN (who did not diversify in 2004-05 and 2011-12), and YN (who did diversify in 2005-05 but not in 2011-12) had 28 percent, and 44.7 percent higher chances of falling into poverty than those farm households who diversified their livelihood in non-farm enterprises in 2004-05 as well as in 2011-12. The results regarding the other independent variables almost similar as report in column 1, which shows robustness regarding the effect of control variables on outcome variables.

5.5. Concluding Remarks

This chapter employs the IHDS data of 2004-05 and 2011-12 to examine the claim that diversifying into non-farm enterprises is an effective way for farm households in developing nations to move out from poverty. The chapter documents strong evidence that increased non-farm enterprises involvement of farm households reduced poverty in rural India. Our results confirm that the poverty status of farm households in rural areas has fallen, and livelihood diversification have played a significant role in it. Participation in non-farm enterprises prevent farm households from falling into poverty, and also help them to escape from poverty. These results clearly indicate a need for greater investment to encourage farm households to diversify their livelihood in non-farm enterprises to harness its pro-poor growth potential. We do not claim to provide fully casual estimates, our methodological strategies produce comparatively consistent and mutually encouraging outcomes, a result that offers some assurance that our non-farm enterprises estimates are widely plausible. Our estimates suggest that NN (who did not diversify in 2004-05 and 2011-12), NY (who did diversify in 2011-12 but not in 2004-05), and YN (who did diversify in 2005-05 but not in 2011-12) had 4.1 percent, 16.6 percent, and 24.5 percent lesser chances of escaping from poverty than those farm households who diversified their livelihood in non-farm enterprises in 2004-05 as well as in 2011-12. However, the results of whether previously non-poor

households fell in poverty or not that livelihood diversification status of NN (who did not diversify in 2004-05 and 2011-12), and YN (who did diversify in 2005-05 but not in 2011-12) had 28 percent, and 44.7 percent higher chances of falling into poverty than those farm households who diversified their livelihood in non-farm enterprises in 2004-05 as well as in 2011-12. The results of control variables such as religion, caste, education of household head, land household, livestock ownership, quintiles of income and consumption represents consistent coefficients which shows robustness regarding the effect of control variables on outcome variables.

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