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Income Diversification: Its Determinants and Role among Farmer Households in Kerala

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The article is about the determinants and effects of income diversification among the farmer households in Kerala. In this study, the household is taken as the unit of analysis using a multi-stage random sampling method. Farmer households have been divided into four categories: marginal, small, medium, and large, based on their land holding size. The inverse Simpson Index has been used for measuring the diversity of economic activities. The study has classified farmer household's income sources into ten categories, both from farm and non-farm sources. The findings in the article reveal that diversification of income is widely practised by farmer households to reduce the risk of income loss and livelihood failure. In a bid to overcome the frequent price shocks and the consequent uncertainties, coping strategies like out-migration and the sale of assets have been used by distressed farmer households. Further, diversification as a strategy does make a positive impact on the income of the rural farmer households. Income diversification has proved to be an effective risk management system to safeguard livelihood security and is a possible way to mitigate vulnerability and distress among the farmer households in the state. The study also underlines the importance of the non-farm sector in the state in securing meaningful outcomes in terms of income and livelihood protection in rural areas.

Keywords: Farmer household, diversification index, vulnerability, coping strategies.

Diversification of income[1] is widely practiced among rural farmers both as a means to earn higher income and an effective strategy to meet the uncertainties of income failure (Bryceson, 1996). This happens because the farm income has become quite insufficient to ensure livelihood security[2] (K.C.Shukla, 2007; N.D. Shukla, 2007). Therefore, diversification by farmer households into the non-farm sector for supplementary sources of income has become necessary for survival and growth. Many rural households engage in a variety of non-farm activities to supplement family income (Ellis, 1998; Reardon., Delgado, & Matlon 1992). This is particularly true in the context of the declining share of agriculture in the country's GDP over the

[1] . Diversification of income is considered synonymous with diversification of activities here.

[2] The word livelihood security here means income earned by the household to fully support consumption and other requirements in the family. But livelihood security is used, in a broad sense, to denote the various income generating resources available to the households to ensure stability of income over a period of time.

years. The share of the primary sector was 48 per cent in 1971, and it declined to 7.3 per cent in 2018-19. The agricultural sector in Kerala has undergone significant structural changes in the form of a decline in the share of Gross State Domestic Product (GSDP), indicating a shift from the agrarian economy (State Planning Board, Government of Kerala, 2014)

The declining role of the farm sector in income and output coincided with a parallel rise in the growth of the non-farm sector in the country. The structural transformation that gained momentum after the 1970s brought about rising opportunities in the rural non-farm sector (Bhalla, 2007). The role of the non-farm sector in rural India in providing opportunities for income and livelihood has been recognised by many studies (Dev, 1990; Papola, 1992; Samal, 2006; Shylendra, 2002). The rural non-farm sector has become instrumental in providing opportunities for the farmer households who were the victims of the twin problems of fall in agricultural prices and frequent price volatility. The prices of major crops in the country have witnessed wild fluctuations with sharp falls in successive years in the post-reform period (Subramanian, 2007). The crisis in the agricultural sector virtually pushed many farmers into mounting indebtedness and pervasive distress. Farming over the years turned out to be a non-viable livelihood option for many traditional farmers. Small and medium farmers started looking at farming as a secondary choice in rural areas. The agricultural sector is characterised by part-time farming as a dominant farm model (Binswanger-Mkhize, 2013). The growing inability of the farm sector to provide a major outcome and livelihood security encouraged rural households to undertake other income-earning activities in the non-farm sector. Distressed farmers seek a multiplicity of income sources as a result of declining factor returns in a single income-generating activity, namely farming (Barrett., Reardon & Webb,2001).

The state of Kerala is unique in many ways. The share of agriculture and allied sectors in the total Gross State Domestic Product (GSDP) of the state has continuously declined over the years. The contribution of the primary sector in terms of income is considerably lower in Kerala's economy compared to the corresponding national average.

Another feature of the agricultural sector of the state is the high proportion of commercial crops with large exposure to the world markets. Kerala's agricultural sector is characterised by the predominance of cash crops with high export intensity (Jeromi, 2007). Export-oriented cash crops account for more than one-third of the gross cropped area in the state (State Planning Board, Government of Kerala, 2018). Food crops comprising rice, tapioca, sweet potato, millets, and pulses accounted for 9.88 per cent of the total cropped area in 2019-20, while cash crops (cashew, rubber, pepper, coconut, cardamom, tea and coffee) constituted 61.6 per cent. The area under crops like rubber, coffee, tea, and cardamom was 27.5 per cent of the total cropped area (State Planning Board, Government of Kerala, 2020). Another disturbing fact is that there have been frequent downfalls in the prices of cash crops along with price fluctuations over the last three decades. The agricultural sector of Kerala is also characterised by fragmentation of land holdings. The land is highly fragmented, and the majority of land holdings are marginal and small in size. The density of small and marginal farmers and the shrinking size of holdings continue to dominate the major issues in the agricultural sector (Deshpande & Arora, 2010). The number of operational holdings below one hectare of land in the State is 6580 and accounts for 96.33 per cent of the total holdings in agriculture (State Planning Board, Government

of Kerala, 2018). There is no way that small and marginal farmers can improve their living standards by depending solely on agricultural income. There is a need for diversification into off-farm and non-farm activities to increase their incomes (Radhakrishna, 2007). The farmers in the state have been suffering from excessive distress over the years, which is manifested in the form of growing levels of indebtedness. At the all-India level, 31.44 per cent of rural households were indebted (incidence of indebtedness) in 2013, whereas it was 49.5 per cent in Kerala (NSSO 70th Round). The average amount of debt outstanding per farmer household is the highest in Kerala among other states in the country (NSSO 70th Round).

While the agricultural sector has been crippling in every respect, the growth rate of the state's economy since 1991 has been remarkable. Kerala not only ceased to be a slow-growing economy but also moved into a high-growth trajectory, very often surpassing many other states in the country. The annual income per capita in Kerala was ₹ 1, 49 563 in 2019-20, while the corresponding national average was ₹ 96,152 (State Planning Board, Government of Kerala, 2020). The service sector of the state, which accounted for 28 per cent of NSDP in 1960-61, increased to 67 per cent in 2012-13 and 65 percent in 2019-20. The tertiary sector has invariably been the main contributor to the growth of NSDP in Kerala since 1991 (Babu, 2005). The striking performance of the tertiary sector compared to the commodity-producing sectors has helped in the growth of the rural non-farm sector as well. The farm sector in the state is crippling in every dimension, while the non-farm sector marches forward and reaches new heights due to the phenomenal growth rate of the service sector (State Planning Board, Government of Kerala, 2014). The declining role of agriculture and the rising role of the service sector in state income can be understood from Table 1. The non-farm sector of Kerala has registered a tremendous growth rate in the post-reform period. Kerala has the highest proportion of rural non-farm employment among the other states in the country. The share of rural non-farm employment in total rural employment in the state is 64.3 per cent, while the corresponding national average is 32.1 per cent (NSSO 66th Round).

Table 1: Sectorial Contribution NSVA -At Constant Prices (Percentage)

Year	Primary	Secondary	Tertiary
1960-61	57.5	15	27.5
1970-71	48	18.5	33.5
1980-81	39	24	36.5
1990-91	35.5	24	40
1999-00	21.65	20.46	57.89
2006-07	14.22	23.78	62.00
2013-14	12.15	26.58	61.27
2019-20	7.3	27.7	65

Source: Department of Economics and Statistics, Govt. of Kerala.

Diversification of activities seeking supplementary sources of income from the farm as well as non-farm sectors has grown as a practice and a choice among rural farmers. However, diversification could be positive and negative in nature. It is

positive if it is driven by growth opportunities in the non-farm sector and helps farmers increase income and achieve livelihood goals. Diversification is negative if it is distress-driven and it fails to reduce vulnerability (Strasser, 2009). Thus, the underlying forces of diversification are quite significant in determining its final outcome. Changing access to livelihood resources and opportunities results in different livelihood outcomes in terms of variations in levels of farm and non-farm incomes (Sharma, 2010). Attempts of income diversification by the rural farmers and its dynamics at the household level, notwithstanding the motives behind such initiatives, are determined by different sets of factors. The present study analyses the causes and consequences of income diversification among rural farmer households in Kerala. The determinants of income diversification among the farmer households are analysed here. It is to serve the purpose of identifying the underlying factors that influence households' engagement in various income-earning activities. The present study also seeks to analyse the role of diversification in bringing about changes in household income among rural farmers. It examines whether diversification attempts at the household level have any positive impact on desirable livelihood outcomes.

The two specific objectives of the study are to analyse the determinants of income diversification among the farmer households in Kerala and the role of income diversification among the farmer households in Kerala.

Data and Methodology

The study has been carried out mainly by collecting primary data from three districts in Kerala, namely Palakad, Kottayam and Thiruvananthapuram, by using a multi-stage random sampling method. The districts have been selected purposely to represent three different regions from south to north with different agro-climatic conditions and various categories of crop cultivation. From each district, one Gram Panchayat has been selected and they are Alathur Gram Panchayat from Palakkad district, Manimala Gram Panchayat from Kottayam district, Vithura Gram Panchayat from Thiruvananthapuram district. Selection of Gram Panchayat is based on the intensity of gross cropped area in each district. Farmer households have been divided into four categories-marginal, small, medium and large on their land holding size. The data from 210 sample households were collected randomly with a pre-tested question schedule by personal interview method.

In this study, the household is taken as a unit of analysis. 'Household' is defined as a group of persons living together and having food from a common kitchen. Diversification of income is defined in this study as an increase in the number of income sources as well as the balance among different sources. A household that has income generated from a greater number of activities is more diversified than a household that gets income from a smaller number of activities. Similarly, a household whose income is equally distributed among the various activities is more diversified than a household who gets income in an unequal manner from the various activities. In the present study, the Inverse Simpson Index has been used for measuring the diversity of economic activities. The number of income sources and the share of income among different sources are simultaneously taken into account. The more uniformly distributed the income from each source, the more closely the index comes to the number of income sources. According to this index, if there are n

number of different income sources, and $P_1, P_2,....P_n$ denotes the distribution of income among various activities by the farmer household, diversity is measured by

$1/S\ Pi^2$, where i = 1 to n.

Measuring the income of the farmer household is a difficult task. The estimates of income presented in this study include all cash and kind incomes other than from borrowings and sale of assets. All incomes from farms and non-farms are the net of costs. The income from crops is estimated for individual crops over paid-out costs. The cost of cultivation estimated for the study closely resembles the cost 'A' used by the Department of Economics and Statistics, Government of Kerala. It includes the cost of hiring human labour, animal labour, machine labour, cost of seeds, cost of manure and chemical fertilisers, cost of plant protection, land tax, rent paid by the farmer, and other costs, which include transportation costs and loading charges incurred during times of farming and harvest. Repair and Maintenance charges incurred for machinery implements and farm building for the current year have also been included in calculating the cost of cultivation. For obvious reasons, no cost is imputed for family labour and no rent is imputed for owned land. Hence, a household that uses family labour incurs a lower cost of cultivation than a household that hires labour. Similarly, the cost of cultivation is greater for a farmer who has taken land for rent than a farmer who owns and cultivates land.

Regarding diversification of economic activity, ten categories of income sources have been identified, including farm and non-farm activities. These categories are:

Crop Income: Crop income refers to the gross money value of output from the cultivation of crops on the operational holding of the household. The net income refers to the income overpaid-out cost. The crops include Paddy, Tapioca, Coconut, Vegetables, Rubber, Banana, Pepper, Coffee and Others.

Animal Husbandry: The gross income from animal husbandry means the gross money value of all material products from animal resources. The net income from animal husbandry means the income over paid-out costs on the maintenance of animals. The costs include the cost of fodder, the cost of animal insurance, the cost of medical expenditure, the cost involved in the maintenance of animal buildings, the cost of labour hired for animals and other costs like electricity charges.

Agricultural Labour: This means the earnings as wages from the works on another person's land by members of the household in the reference year.

Non-Agricultural Wage Labour: Total wage earned by all members of a household from casual work in non-agricultural activities, including the Mahatma Gandhi Rural Employment Grantee Programme (MGREGP).

Government Salaried Jobs: Total wage earned by all members of a household from salaried jobs in the public sector.

Other Salaried Jobs: This means the earnings of all members of a household from regular jobs in the private sector.

Business and Trade: This includes all earnings generated from non-farm business and self-employment.

Pension and Interest Income: This refers to all receipts by members in the households from pensions, insurance claims and interest income from deposits during the reference year.

Remittance Income: This includes all remittance incomes received by the household.

Rental Income: All receipts received in cash and kind from leasing out assets by the household in the reference year.

The present study has classified farmer households' income sources into ten categories, and hence, the diversification index can have values from a minimum of 1 to a maximum of 10. Households with greater diversity values will have greater diversification of income and vice versa. This paper is explained in the context of insurance-based theories of diversification, which view diversification as a practice of insurance against income and consumption failures.

Results and Discussion

Diversification of Income

The growing inability of agriculture and allied activities to fully support the livelihood requirements of the farmer households encourages them to undertake many activities in the rural non-farm sector. Table 2 shows the mean number of activities carried out by the farmer households in the rural area for making a living.

Table 2: Mean Number of Activities Undertaken By the Farmer Households.

Districts	N	Mean	Std. Deviation	Minimum	Maximum	F	Sig.
Trivandrum	70	4.7571	1.41867	2.00	8.00	27.17	0.000
Kottayam	70	4.1286	1.14108	2.00	7.00		
Palakkad	70	3.2714	0.99158	2.00	6.00		
Total	210	4.0524	1.33847	2.00	8.00		

Source: Primary Data

Statistically speaking there is a significant mean difference in the number of activities undertaken by the household in various districts. The mean number of activities practised by the household is very high, with an average of 4.05. This shows that diversification is widely prevalent among farmer households across various districts in Kerala. In an attempt to generate supplementary income to prevent possible consumption failure, farmer households venture into many activities, both on-farm and off-farm, in rural Kerala. The growing distress and vulnerability in the farm sector encourage traditional farmers to undertake as many activities as possible by making use of all possible resources, including labour power.

The index of income diversification among the farmer households in various districts is presented in Table 3.

Table 3: Index of Income Diversification among the Farmer Households**.**

Districts	N	Mean	Std. Deviation	Minimum	Maximum	F	Sig.
Trivandrum	70	2.59988252	.856519950	1.028924	4.371350	7.687	0.001
Kottayam	70	2.54518095	.744301814	1.269519	4.287417		

Palakkad	70	2.15205611	.585452460	1.032214	3.415115
Total	210	2.43237319	.760416191	1.028924	4.371350

Source: Primary Data

Diversification index in various districts under study reveals that the sources of income earned from different activities, on-farm and off-farm, are quite large among the farmer households. The income diversification index is lower than the mean number of activities undertaken by the households. This is because the diversification index is influenced by the total number of income-earning sources and the proportionate contribution of each income source to the total income. The high-income diversification index shows the presence of large diversification in the number of activities undertaken by the farmer households. It is an indication that diversification has been adopted as a dominant strategy by farmer households for both subsistence and progress. It is now important to identify the underlying factors that help farmer households undertake a diversified portfolio of activities in rural Kerala. The determining factors of income diversification among the farmers are analysed in the next section.

Determinants of income diversification

To identify the determinants of crop diversification a multiple regression model has been used with diversification index as the dependent variable. The independent variables that are expected to influence diversification are age of the household, education level of the household head, number of members in the household, total land owned, access to credit, presence of out-migrants and sale of assets. The model is free from autocorrelation, as revealed by the Durbin-Watson statistic.

The econometric model suggested is;

$$DI = \beta_0 + \beta_1 X\ Age + \beta_2 X\ Education + \beta_3 X\ Members + \beta_4 X\ TLO + \beta_5 X\ AC + \beta_6 X\ MG + \beta_7 X\ SA$$

Based on the above regression model, five variables were found to have significant impact in determining diversification of income. These variables include the age of the household, number of members in the households, total land owned, presence of out-migrants and sale of assets. But, statistically speaking, there is no significant relationship between the diversification index and two other variables, such as education and access to credit. Moreover, these variables were found to have negative effects on income diversification. The results are found in table 4.

Table 4: Estimates of Various Factors on the Diversification Index.

Predictor	Coefficient	t-Ratio
Constant	0.700	0.133
Age	**0.227*** **	**2.839**
Education	-0.053	0.699
No. of Adult Members in the HH	**0.268*** **	**3.391**
Total Land Owned (TLO)	**0.183** **	**2.496**
Access to Credit (AC)	-0.064	-0.864

Presence of Out-Migrants (RI) (Yes = 1, No = 2)	**0.233*** **	**2.856**
Sale of Assets (SA)	**0.255*** **	**3.016**
Important Statistics		
N (Number of Households)		210
R-Squared		0.849
Adjusted R-Squared		0.835
Durbin-Watson Statistic		2.048
F-Statistic		4.632
P-Value		0.000

Note: ***, ** and * denotes significance level at 1, 5 and 10 percent, respectively

Age is found to have a positive relationship with diversity index and the effect is statistically significant at one per cent level. Farmer households with higher ages tend to undertake more income-generating activities than their younger counterparts.

The level of education does not make any impact on diversification activities, according to the value given in Table 4. Moreover, the diversification index is negatively related to education among the farmer households. One possible reason is that educated rural households tend to hold a less diversified portfolio of income sources since the need for diversification as a form of insurance against risk is lower among them compared to less educated farmers. This happens because the range of livelihood activities to which educated farmers have access and practice are more productive and more income-generating in nature. Unlike the poor, the rich undertake diversification only when the expected pay-offs are much better than the existing activity. They tend to hold an optimum number of activities in which the average return from each one is the highest. Education helps households in specialising in highly paid activities they are qualified to perform (Anderson & Deshingkar, 2005). Moreover, as there are gains from the specialisation of labour, the need to maintain a diversified livelihood portfolio may entail a significant reduction in the overall level of household income in an average year (Roumasset , 1979).

The number of adult members in the family has a positive and significant impact on diversification. The presence of more working members in the family provides incentives to farmer households to undertake a wide variety of activities to minimise consumption failure. The higher the number of working members in rural households, better the chances of minimising the risks faced by them. It is an effective form of insurance against the possible fluctuations in income among the farmer households.

Access to credit is found to have a negative relationship with the diversity index. This is because households who have greater access to credit are possibly the rich, and they prefer to stay away from availing credit and instead use their own capital for agriculture and other activities as the risk and uncertainty in farming activity in the context of fluctuating prices is higher. Moreover, the rich diversify to grow further rich, and they tend to focus on specialisation as the cost involved in diversification is often higher. On the other hand, diversification by the poor is distress-driven, and they diversify into various activities to reduce vulnerability.

The presence of outmigrants and remittance income is positively and significantly correlated to diversification. To minimise the risk of consumption failure and to

increase income and wealth, migratory practises, especially migration abroad, have been used among rural farmers. Remittance income has played a positive role in enhancing the overall income of the household. Migration has helped the farmers to increase their per capita income and ensure a smooth consumption flow in Kerala (Sunny., Parida, & Azurudeen, 2020). Sending the educated youth of the household to countries abroad that are perceived to offer better employment opportunities and higher returns is considered as an effective coping strategy[3] of insurance against the potential threats of income failure. It is an *ex-post* strategy that is manifested in the form of an involuntary response to an unexpected crisis (Strasser, 2009). Coping strategy is a major determinant of diversification (Ellis, 1998). As the share of income from farm output declines, there has been an increased tendency for people to migrate to more distant places that offer higher income and livelihood security (Carter, 1997; Deb., Rao., Rao & Slater, 2002). Thus, the earnings obtained from migration and the remittances sent back by migrants to their resident families play an important role in reducing the risk of income and consumption failures in the context of the growing vulnerability among farmer households in rural Kerala.

Adaptation[4] is also a determinant of diversification (Davies, 1996; Ellis, 1998). The coefficient of the sale of assets being significant and positive implies that adaptation attempts are quite rampant among the farmer households to overcome the frequent income failures occurring in the farm sector. In an attempt to adapt to the situation of an unexpected income loss in agriculture, farmers are left with no choice but to sell assets like gold, land, timber and animals they hold. The poor farmers often resort to the sale of assets or run-down savings to adapt to an agrarian crisis (Berloffa & Modena, 2009). Adaptation in the form of the sale of assets is often made use of by the farmer households to reduce the risk of an unexpected income failure.

On the basis of the above regression analysis, it may be concluded that the rural farmer households in our study area hold a more diversified portfolio of activities. The major determinants of diversification include the age of the farmer household, the number of adult members and the total land owned by the household. Moreover, income diversification is positively and significantly correlated to coping behaviour like the number of out-migrants in the household and adaptation practices such as the sale of assets by the farmer households in the study area.

The Role of Income Diversification

After having studied the major determining factors that facilitate diversification among the farmer households, it is equally important to analyse the effects of diversification on income among them. This is an attempt to analyse the impact that diversification attempts deliver upon the level of income of the farmer households. The dependent variable is the household income, and the independent variables include the diversification index, age of the household, education, landholding size and the level of financial assets.

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[1] Coping strategy is an ex-post strategy to deal with a crisis (Carter, 1997). It is a long run strategy to achieve livelihood security by utilising all the resources with the household.

[2] Adaptation is sometimes considered as a form of coping behaviour. Adaption is a coping activity which has become permanently incorporated into the normal cycle of activities (Davies, 1996). However, adaptation methods are short run attempts to meet immediate and pressing expenditure requirements by the households.

The econometric model suggested is:

$$Income = a_0 + a_1 X DI + a_2 X Age + a_3 X Education + a_4 X LHS + a_5 X FA$$

The regression results of income generated by the households have been reported in Table 5.

Table 5: Estimates of Various Factors on Household Income

Predictor	Coefficient	t-Ratio
Constant	-6524.24	-0.215
Diversity Index (DI)	**5493.487*** **	**5.5762**
Age	**3680.007*** **	**11.750**
Education	311.811	0.178
Land Holding Size (LHS)	**2635.431** **	**2.325**
Financial Assets (FA)	**3271.493** **	**2.275**
Important Statistics		
N (Number of Households)		210
R-Squared		0.864
Adjusted R-Squared		0.838
Durbin-Watson Statistic		2.030
F-Statistic		29.209
P-Value		0.000

A good adjusted R^2 value together with highly significant F statistic show a good fit of the model. The positive and significant coefficient of the diversity index clearly suggests that a household's income increases with an increase in diversification. The higher the number of activities undertaken, the higher is the level of income earned by the farmers. Diversification helps farmer households increase their income and ensure livelihood security if they take advantage of other opportunities in the non-farm sector. The positive impact of diversification on income and wealth has been validated by many studies also (Ellis,1998; Reardon., Delgado, & Matlon, 1992; Barrett., Reardon & Webb, 2001).

The age of the household is positively and significantly correlated to income earned by the household, which implies that experience does matter among the farmers to ensure a greater flow of household earnings from different sets of activities. The sign of the estimated coefficient of land holding size and its level of significance suggest that earnings are higher among the farmers with larger land holding sizes. This occurs because the range of livelihood activities to which they have access is generally more productive and more income-generating in nature. However, the level of education is found to have an insignificant impact on household earnings. Education does not seem to have any role in enhancing income among the farmer households in the study area. Financial assets[5] seem to have a positive and significant effect on the earnings made by the farmer households.

Thus, factors such as household level diversification, age of the head of the

household, land holding size and possession of financial assets are revealed to have played a significant role in enhancing the level of income among the farmer households, but the level of education does not make any impact in increasing income.

Conclusion

The major concluding remarks based on the above discussion can be summarised below. Diversification is a practice and mode of living pursued by the farmer households in the context of the growing vulnerability to income failures in the farm sector. Farmer households undertake a variety of activities in the non-farm sector for survival and growth. The growing inability of agriculture and allied activities to fully support the livelihood requirements of the farmer households encourages them to undertake many activities in the rural non-farm sector. Thus, the rural heartland of Kerala is fast becoming a hotbed of non-farm possibilities for traditional farmers. Rural farmer households in Kerala increasingly resort to out-migration strategies to cope up with their income failure from the frequent output-price shocks in the agricultural sector. A more distressing fact is that in an effort to minimise consumption loss and ensure livelihood security, adaptive methods like the sale of assets have been used among the farmers in the state. All these factors are shown to be significant determinants of income diversification along with other household specific characteristics like age of the household, number of adult members in the family, total land owned by the household. Farmer households with higher ages tend to undertake more income generating activities than their younger counterparts. The presence of more working members in the family provides more incentives to farmer households to engage in a wide variety of activities to earn higher incomes. However, contrary to expectations, the level of education does not make any impact on diversification activities. The educated rural households tend to hold a less diversified portfolio of activities primarily because the need for diversification as a form of insurance against risk is lower among them compared to their less educated counterparts. This is because the range of livelihood activities to which educated farmers have access and practice are more productive and more income generating in nature. Unlike the poor, the rich undertake diversification only when the expected pay-offs are much better than the existing activity.

Moreover, maintaining a diversified portfolio of income generating activities at the household level enhances the overall income of the households. Household's income increases with increase in diversification of activities. Higher the number of activities undertaken, higher are the levels of income earned by the farmers. Thus diversification helps farmer households in increasing their income and ensures livelihood security especially when they are able to take hold of other opportunities in the non-farm sector. To conclude, diversification of income into non-farm sector is a way out and an effective insurance mechanism for the distressed farmer households in the context of growing risks and uncertainties in agriculture.

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