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Impact of Income Diversification and Determinant in Rural Area of Nasarawa State, Nigeria

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Abstract

The paper investigates the impact of income diversification and determinant in rural area of Nasarawa Sate, Nigeria. The determinants of rural income diversification have been analyzed in various developing countries, the results remain somewhat ambiguous. Likewise, many previous studies failed to consider the impacts of diversification. Hence, more research is needed to understand what conditions lead to what outcomes and to identify appropriate policy responses. Here, the researcher analyze the situation in rural Nigeria based on recent survey data. The majority of households is fairly diversified; 50% of total income is from off-farm sources. Strikingly, richer households tend to be more diversified, suggesting that diversification is not only considered a risk management strategy but also a means to increase overall income. Econometric analysis confirms that the marginal income effect is positive. Yet, due to market imperfections, resource-poor households are constrained in diversifying their income sources. Reducing market failures through infrastructure improvements could enhance their situation, while, at the same time, promoting specialization among the relatively better off. Inclusion,non-farm income plays a very important role in augmenting farm-income as almost three-quarters of the respondents adopted a combination of farm and nonfarm strategy. This is an indication that farming alone is not an adequate source of revenue for the rural households.

Keywords*:* *Income, Diversification and Determinant*

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Background to the Study

Income is defined as the total amount of money earned from work or obtained from other sources over a given period of time. The free on line dictionary (2008) defines income as the amount of money or its equivalent received during a period of time in exchange for labor or services, from the sale of goods or property, or as profit from financial investments. The same source alternatively describes income as money received by a person or organization because of effort (work) or from return on investments. Diversification means addition of livelihood sources of income other than those of farm related ones. It is the most important way of reducing rural poverty and increasing household income (Hengsdijk2007).

According to Brugère (2008), diversification is defined as the process by which rural households construct a diverse portfolio of income generating occupations in their struggle for survival and in order to improve their standards of living. As per this definition, diversification can occur at a household level in terms of adding more occupations to the portfolio of occupations. However, diversification can also occur at a broader scale so that there are greater numbers of occupations available to households within villages, but households may choose to engage in only a subset of these occupations

Haggblade (2010) define nonfarm diversification as seeking business or employment opportunities other than traditional crop production and livestock rearing. Even nonfarm diversification is related to agriculture as it includes processing and trading of agricultural produce. Further nonfarm activities include service provision, shop keeping and manufacturing.

According to Haggblade et al. (2010), the term rural nonfarm enterprises is used in this paper to refer to all rural business enterprises outside of farming; it includes, for example, shops, business services, food processing and preparation for sale, petty trading, engaged in rural crafts and so on. Income diversification refers to the allocation of productive resources among different income generating activities, both on-farm and off-farm (Abdulai and Rolerees, 2001). According to Barrett, Reardon and Webb (2001), very few people collect all their income from any one source, hold all their wealth in the form of any single asset, or use their resources in just one activity. Researchers have identified several reasons for households to diversify their income sources. The main driving forces include: first, to increase income when the resources needed for the main activity are too limited to provide a sufficient livelihood (Minotet al., 2006); second, to reduce income risks in the face of missing insurance markets (Reardon, 1997; BARRETT, Bezunehand Aboud, 2001); third, to exploit strategic complementarities and positive interaction ons between different activities; and fourth, and related to the third point, to earn cash income to finance farm investments in the face of credit market failures (Reardon, 1997; Rubenand Van Den Berg, 2001).

According to Ellis (1998), these may vary substantially across different countries and regions. For instance, Schwarzeandzeller (2005) showed that rural income diversification is higher among poorer than richer households in Indonesia, while Abdulai and Crolerees (2001) and Block and Webb (2001) showed that the opposite holds true in Mali and Ethiopia, respectively. Also with respect to the driving forces, the empirical literature offers mixed results, particularly concerning the role of farm land. Many of the available studies for countries in Asia recognized the key role of shrinking farm land availability (Minot et al., 2006). by contrast, land scarcity seems to be less important in some parts of Africa (Canagarajahet al., 2001; Lanjouwet al., 2001). These divergent results call for further empirical research, to better understand the situation in specific settings and provide knowledge that is needed for appropriate policy responses.

Here, we analyze the patterns and driving forces of income diversification in rural Nigeria, based on data from a household survey carried out in2006. The results contribute to the empirical literature, because no related, recent evidence is available for Nigeria. In addition, we make a conceptual contribution by not only looking at the causes, but also at the impacts of diversification on household incomes. This reverse causality has hardly been analyzed before in quantitative terms. Obviously, estimating impacts econometrically could easily lead to biased results when not accounting for endogeneity. Therefore, we use two-stage least squares (2SLS) techniques to obtain unbiased and robust estimates.

Statement of the Problem

The rural poor often lack access to insurance services; so many individuals prefer strategies to avoid risk. Based on this statement, one strategy for avoiding or minimizing risk is to engage in a wide range of income generating activities so that if one activity fails the individual may fall back on another. As such the rural poor often pursue a diverse range of income generating activities. Reliance on agricultural growth and agricultural strategies alone as the primary vehicle for rural poverty reduction may not be a long term option. Factors such as very small land holdings, drought, floods, crop loss due to pest and/or disease, poor road status and gaps in market access in rural areas, means that agriculture is already unable to support all of the rural population, leaving many reliant on the Productive Safety Net Programme (PSNP) or food aid. It is therefore critical to understand that income diversification enable people to move out of agriculture into new, high earning and more sustainable livelihoods.

Purpose of the Study

1. To examine the existing income sources which the rural households pursued
2. To identify the major factors which influence income diversification in the study area.

Research Questions

1. What types of income diversification activities are pursued by rural households?
2. What are the major factors which influence income diversification in the study area?

Hypotheses

i. There is no significant difference in the income sources which the rural households pursued.
ii. There is no significant difference on the influence income diversification in the study area

Literature Review

In Africa, the average share of rural non-farm incomes as proportion of total rural incomes, at 42%, is higher than in Latin America and higher still than in Asia (Reardon et al., 2000). Most evidence shows that rural non-farm activity in Africa is fairly evenly divided across commerce, manufacturing and services, linked directly or indirectly to local agriculture or small towns, and is largely informal rather than formal. Also, while households earn much more from rural nonfarm activity than farm wage labour, non-farm wage labour is still more important than self- employment in the non-farm sector (Reardon, 1999; Haggblade et al., 2007). Hussein and Nelson (1998) in their study on sustainable livelihood and livelihood diversification concluded that while livelihood diversification is normal for most people in rural areas of Abimbola and Oluwakemi developing countries in Africa, non-agricultural activities are critical components of the diversification process. Further, livelihood diversification is pursued for a mixture of motivations and these vary according to context: from a desire to accumulate, invest and the need to spread risk or maintain incomes, to a requirement to adapt to survive in eroding circumstances or some combination of these. In addition, the character of livelihood diversification is dependent primarily upon the context within which it is occurring (the differential access to diversification activities and the distribution of the benefits of diversification). However, the poorest rural groups probably have the fewest opportunities to diversify in a way that will lead to accumulation for investment purposes.

According to Babatunde and Quaim (2009), the pattern of income diversification among rural households in Nigeria, showed that majority of the households have fairly diversified income sources. On the average, while only 50% of the total household income is generated from farming, the rest comes from different off-farm sources. However, there are notable differences across income strata. While farming remains the dominant income source for the poorest, off-farm occupation especially self-employed activities are the main sources of income for relatively richer households. Also, Ellis (2000) using regression models, showed that households have unequal abilities to diversify their income sources and that education, asset, endowment, access to credit, and good infrastructure conditions, increase the levels of household diversification. These factors improve the opportunity to start own business and find employment in the higher paying non-farm sector. In other words, resource-poor households in remote areas are constrained in diversifying their income sources. Ibekwe et al. (2010) using double log regression, noted that a distress diversification hypothesis is supported by the negative relationship between nonfarm income and the farm output per hectare of land in South Eastern Nigeria. They accounted for household's involvement in nonfarm activities by reference to their demographic features and to other household specific characteristics such as occupation, education level, number of spouse(s), family size and land holding as well as farm output. It could be inferred from the result that land holding size, years of workers education, per hectare value of agricultural output, occupation and age of household head are the major determinants of nonfarm income at the household level in South Eastern Nigeria . The study suggested that economic and social factors should matter in nonfarm sector policy in Southeast Nigeria if diversification is to be encouraged.

The Inverse Relation Measuring Income Diversification

Attempts to quantify income diversification, so far mostly available for rural areas, focus on estimating the share of nonfarm income in total household income (e.g., Block and Webb 2001; Lanjouw, Quizon, and Sparrow 2001). The assumption in those studies is that a higher share of nonfarm income amounts to higher diversification and less vulnerability to weather-related shocks, the main risk factor in rural environment where agriculture is the main livelihood. However, some important difficulties are associated with using the share of nonfarm income as a measure of income diversification. For instance, the share of nonfarm incomeas the proxy indicator for income diversification gives equal risk-mitigation weight to households deriving a given percentage of nonfarm income from one versus three income sources. It is a difficult the cropping seasons are approximate; planting can take place as late as November and harvesting can come late in May. The information on seasons was obtained from crop calendars of the Food and Agriculture Organization (FAO).

The regional mean is computed over all years except the current year, to eliminate biases in the measure of the deviation from the mean for those regions with shorter time series. Indicator to measure, requiring an accurate accounting of the level of income from all farm and nonfarm sources. The share of nonfarm income as a measure of income diversification also is less relevant in urban areas, since most income sources there tend to be nonfarm.

To improve the comparability between urban and rural areas, this paper proposes a relatively easy-to-measure diversification index: the number of income sources (NYS). Pursuit of more than one income source may arise from the need to reduce income risk emanating, for instance, from macroeconomic policies that result in job losses due to shrinkage of public-sector employment, which may have been the case in Zimbabwe in the 1990s. The number of income sources (NYS) has several advantages over the share of nonfarm income in rural areas. It is relatively easy to measure, while calculating the nonfarm income share involves accounting for the actual household incomes from various sources. The number of income sources allows studying of income diversification behavior in urban areas, thus facilitating an urban-rural comparison.

Theoretical Frame Work

Theory of Income Distribution

THE theory of income distribution is in a highly unsatisfactory and controversial state. Further thinking on the subject can be facilitated by a survey that does the tedious but necessary preliminary work of reviewing the field, putting it into some kind of order, and pointing out the more obvious strengths and flaws, connections and inconsistencies.

It is in this spirit that the following comments are offered. There are at least four possible subjects that a theory of income distribution could cover: first, the level and changes in the level of incomes earned in particular occupations; second, the distribution and changes in the distribution of personal incomes by size; third, the functional distribution of income among the owners of the different productive factors; and fourth, the relative size and changes in the relative size of the various components of the official personal income accounts.

The first, being the least ambitious, is probably also the most promising, but so little work has been done in this area that there is virtually nothing to review. On the second subject, the most important work, Champernowne's,' is beyond my grasp, and apart from that very little has been done.

The available data cover too short a period of time to base theories on, and we have not yet progressed beyond the simple notions of the classical economists who looked to death duties and increasing education to diminish inequalities of income. The effectiveness of this last factor has recently been questioned,2 but there is still plenty of scope for more work on this subject. Another equally obvious influence on income distribution by size has never been mentioned and may well be worth looking into. There is evidence of a secular trend toward increasing centralization and an increasingly large-scale organization of economic, social, and political life; this means a changing pattern of demand for people, with fewer positions available in the higher and more in the lower echelons.

Methodology

The study adopted evaluative survey research design. This is because the researchers are interested on the impact of income diversification and determinant in Doma LGA area of Nasarawa state. The population for the investigation consists of all people within the study area. The target population consists of 7,324 Farmers. The sample for the study consists of (300) farmers. Simple random sampling strategy was adopted to select 300questionnaire was used as an instrument for the data collection consists of a like-scale type .t-test statistic was applied for the tests of significance. All analyses were done using Statistical Package for social Sciences (SPSS Version 21).

Hypothesis i

There is no significant difference in the income diversification activities that pursued by rural households.

Table 1: t-test result for significant difference on types of income diversification activities that pursued by rural households.

Sources of income	Number of Count	DF	Mean (x)	Standard Deviation	t-cal	T-tab	A	Decision
Live hood	165		3.44	1.04				
		298			4.31	1.96	0.05	Rejected
Crops	135		3.93	1.16				

Table 1 shows the t-test results for significant difference on types of income diversification activities that pursued by rural households. Furthermore, at 0.05 level of significance and degree of freedom of 298, the t-test value is 4.31 which is greater than critical value of 1.96. Therefore, since the calculated value of t-test is greater than its tabulated value, the hypothesis is therefore rejected in favor of alternative hypothesis. Hence, there is significant difference on types of income diversification activities that pursued by rural households

Hypothesis ii

There is no significant difference on the factors which influence income diversification in the study area.

Table 2: t-test result for significant difference on the factors which influence income diversification in the study area.

Variables	Number of Count	DF	Mean (x)	Standard Deviation	t-cal	t-tab	A
Poor	180		341	0.98			
		298			4.87	1.96	0.05
Combine of farm	120		395	1.12			

Table 2 shows the t-test result for significant difference 2.to identify the major factors which influence income diversification in the study area .Furthermore, at 0.05 level of significance and degrees of freedom of 298, the t- test 4.87 which is greater than critical value of 1.96. Therefore since the calculated value of t-test is greater than its tabulated value; the hypothesis is rejected in favor of alternative hypothesis. Hence, there is significant difference on the factors which influence income diversification in the study area.

Conclusion and Recommendations

This study has shown that non-farm income plays a very important role in augmenting farm-income as almost three-quarters of the respondents adopted a combination of farm and nonfarm strategy. This is an indication that farming alone is not an adequate source of revenue for the rural households. Therefore, promoting non-farm employment may be a good strategy for supplementing the income of farmers as well as sustaining equitable rural growth. This could be achieved through training programmes directed towards training farmers in skills that can be used in non-farm jobs in their vicinity as well as improvements in infrastructure, education and financial markets. Specifically, engagement in non-farm activities, apart from reducing income uncertainties and providing a source of liquidity in areas where credit is constrained, could increase agricultural productivity as it provides the resources necessary for investment in advanced agricultural technologies. The adoption of better technology is expected to be highly profitable and will encourage the transition from traditional to modern agriculture. Therefore, there is a need for the government to formulate policies to increase the availability of nonFarm jobs in the rural areas. Further, the private sector should be encouraged to create income-generating activities in the rural areas to enhance their livelihood diversification activities and ultimately their living standard.

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