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# Determinants and Effect of Livelihood Diversification on Farm Households in Ekiti State, Nigeria

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**Abstract**
A fundamental challenge the world faces today is ensuring that millions of households in poverty have access to enough food to maintain a healthy life. Africa, over the years has been looking for ways of solving food problem and this has been a topical issue among African leaders, Scholars and all a sundry. As a contribution to the existing literature, this study seeks to provide an in-depth understanding on the reasons people pursue diversified livelihoods, extent of multiple job holding, factors that drive individuals into multiple-job holding, the different income-generating activities rural households in Ekiti State engage in and their socio-economic characteristics. Primary data were collected from 120 respondents randomly selected from the 16 blocks delineated by the Ekiti State ADP with the aid of a structured questionnaire. Descriptive statistics, Tobit regression and probit models were used for data analysis. Analysis of the socio-economic characteristics show that the respondents were young vibrant and active in farm work with 84% of them below 50 years. Findings on job diversification show that 11.7%, 40.0% and 38.8% engaged in 3 three jobs, 2 jobs and one job respectively. Increased income and better standard of living were the major reasons for job diversification. Results of tobit regression model showed that level of education and respondent's income were the significant determinants of job diversification among the respondents. Similarly, the results of probit regression model showed that educational level and family size are the significant determinants of poverty at 1%. The result of the study indicated that Livelihood was generally diversified with majority doing more than two jobs for more income and better standard of living.This offered important insight as to what sorts of intervention might be effective in reducing poverty and vulnerability in rural Ekiti state.
**Keywords:** Determinant, Livelihood, Diversification, Farm household.

## 1. Introduction

Livelihood diversification refers to attempts by individuals and households to find new ways to raise incomes and reduce environmental risks. It includes both on and off-farm activities, which are undertaken to generate additional income to the main household agricultural activities through the production of other agricultural and non-agricultural goods and services or self employment undertaken in small firms and other strategies undertaken to spread risk.

Livelihood diversification is becoming more rampant in Nigeria, presently, many teachers, civil servants and other government workers move from one office to the other selling different items during work hours to generate additional income while some farmers are commercial motorcyclists, bus conductors, night guards, on part time basis, shoe menders etc.

Multiple motives prompt individuals and household to diversify assets and income activities. Reardon (1998) classified the motives into what are traditionally termed demand pull and distress – push. When individuals respond to new opportunities, demand pull is at play while distress push is at play when people are driven to seek non-farm employment because there are no opportunities on farm. Pull factors are at work when rural populations engage in economic activities that are less productive than agricultural production and are motivated by the need to avoid further income decrease.

Households diversify their activities mainly to increase their income from non-agricultural activities because returns to their assets endowed in agricultural production decrease in relation to the returns from using them in non-agricultural activities. In the rural areas, people diversify because of geographical isolation, low quality physical infrastructure, low human capital, under developed markets, resources scarcity or incidence of some natural disaster.

There are two aspects of diversification, a shift away from agricultural activities and an increasing mix of income activities (Kabir et al 2012). When diversification involves a shift away ie. Diversification into Rural Non Farm Economy/RNFE) then food security is threatened. Diversification involving a shift away from agriculture seems to be more common because of the drudgery involved in agricultural production due to the use of crude implements, financial incapability for farm expansion, and climate change that makes weather conditions unpredictable for farming. All these lead to low small farm size, low yield ,low income and keep farmers within the poverty cycle. Barret et al (2001) identified three conflicts inherent in livelihood

 

diversification. First, it brings about a conflict between the demands of an individual primary jobs and secondary jobs. Second, it can lead to potential negative health effect of working long hours. Third, engaging in many jobs may prevent individuals from adequately planning their domestic or other responsibilities in advance thereby reducing their efficiency. Also, Idachaba (2000) noted that where farms are broken up into small farms, for a part-time operations, total production from farm might decrease.

On the other hand, livelihood diversification could promote food security when it occurs within the agricultural industry. Some farmers engage in mix-farming (i.e. growing crops and rearing animals) to reduce risk and for enterprise complimentarity. For instance, a poultry farmer can feed his fish pond with poultry droppings while animal manures are used as organic fertilizer in crop cultivation. Many farmers particularly females engage in crop processing and marketing. Another big advantage of diversification in rural household is that the additional income generated from non- farm income can be used for farm investment.

From the foregoing, it is clear that there has been an increased recognition among researchers especially in one or two decades that Africans diversify their livelihood strategies including non-farm (crop, livestock, fisheries etc) and off-farm activities or market and non market activities to mitigate risks inherent in unpredictable agro-climatic and politico-economic circumstances. This study therefore seeks to provide an in-depth understanding of the reasons farmers engage in diversified livelihoods; the extent of multiple job holding; factors driving households into multiple job holding; activities that farm houses engage in to generate additional income and the socio-economic characteristics of livelihood diversifiers in Ekiti State of Nigeria.

## 2. Methodology

This research was conducted in Ekiti State. Ekiti state was carved out of the former Ondo state on the 1st October, 1996, by General Sanni Abacha's administration. The state is situated entirely within the tropics and is located between longitude $4^0$ 5' and $5^0$ 45'E and latitude $7^0$15' and $8^0$5'N. The state is bounded by Osun State to the left, Ondo State to the south, Kwara and Kogi states to the north. Ekiti state is mainly an upland zone rising over 250m above sea level, naturally endowed with undulating surface and enjoys tropical climate with two distinct seasons of raining season (April-October) and dry season (November-March). Temperature ranges from $21^0$ – $28^0$c with high humidity. The south westerly winds and north east trade wind blow in the raining season and dry (harmattan) season respectively. Tropical forest exists in the south while guinea savanna predominates in the northern peripheries of the state.

### 2.1 Sampling and Data Collection Procedures

Data were collected from 120 respondents using the state ADP agricultural delineation through multi stage sampling technique. The state is divided into zones 1 and 2. Three blocks were randomly selected from each zone, one community randomly selected from each block making six communities and 10 farmers were randomly selected from each community making a total of 120 farmers in all. Structured questionnaire supplemented with oral interview were used as data gathering instrument.

### 2.2 Data Analysis

Descriptive statistics, tobit and probit models were used for data analysis. Descriptive statistics including mean, standard deviation, percentage and frequency distribution were used to analyse the socio-economic characteristics of the farm households and types of jobs engaged in. Tobit regression model was used to ascertain the determinants of livelihood diversification among households in the study area. The Tobit model is in the form.

$$Y^* = x\,b + e\acute{\imath},$$

Where:

eí is normally distributed with zero mean and constant variance.

Y = livelihood diversification index obtained by dividing the number of livelihood sources employed by all the livelihood sources available in the study area. Thus the value of the livelihood diversification index ranges between zero and one. Thus the explanatory variables used in the analysis are:

X1 = Livelihood index (dependent variable)
X2 = Sex (Male = 1 Female = 0)
X3 = Age (in years)
X4 = Marital status (married = 1, single, divorced or widowed = 0)
X5 = Years of formal education
X6 = family size
X7 = Primary occupation (Farming = 1, non farming = 0)

X8 = Income of respondents (₦)
X9 = Access to credit (Yes = 1, No = 0)
X10 = Location (distance to state or local headquarters)
B = regression parameters or coefficient
eí = error term

Probit model was used to determine the poverty status of the selected households in the study area. Poverty status (poor = 0, Non poor = 1).

The explanatory variables used for the Tobit model were also used in the Probit model analysis.

## 3. Results and Discussion

### 3.1 Socio-economic characteristics of the sampled farm household.

The socio-economic characteristics of the farm households that are of interest to the study are sex, age, marital status, educational background, household size and major occupation. These are presented in table 1.

Majority (71.7%) of the sampled farm households were male and 28.3% were females. The respondents were young with half of them (50%) less than 40 years while about 16% were above 50 years of age. The modal age was between 31-40 years accounting for 39.2%. About 76% of them were married. Ninety five[ 95%) of the selected farm households had acquired one form of formal education or the other. The distribution further shows that about 8% of them are professionals who had tertiary education while 34% had secondary school education. The family sizes were relatively large. About 33% had less than 3 members in a household. Large family size indicates higher expenditure and hence the need to undertake other jobs to earn additional income.

About 65% of the respondents had between 3-5 dependants while 8.5% had more than 6. High dependency ratio is associated with large family size, poor housing, malnutrition, illiteracy and lack of medical care which are physical manifestations of poverty. Therefore a respondent with many dependants has the tendency of seeking additional income through other jobs to meet the increasing demands of dependants. The table further shows that all the respondents has children in school, specifically, 73% had more than 3 children in school. About half (51%) chose farming as their primary occupation, followed by trading 17.5%, artisans (12.5%) and tailoring (10.0%). Also indicated in table is the fact that more than half(53.3%) had spent a considerably long time on their primary jobs. Diversification may be difficult for this group of people because they must have acquired some experience over the years that would facilitate their success on the job. Only 28.3% claimed they had access to credit for farm investment and 88.3% had no access to credit. Access to credit would enhance job expansion thus discouraging job diversification.

### 3.2 Livelihood Diversification Among the Respondents

Very few households collected income from more than one source, hold their wealth in the form of a single asset or use their assets in just one activity. There are many reasons households diversify assets, income and activities. Table 2 shows the distribution of farm households in Ekiti State according to livelihood diversification. Eighty percent of the selected households engaged in more than one job, 40% did 3 jobs while 12.5% engaged in more than three jobs.

Findings further showed that only about 30% (29.6%) of the respondents did not engage in any other job activities other than farming while others diversified into jobs like trading of non agricultural products, agricultural marketing, and artisanship as indicated in table 3.

Livelihood diversification has different motivation and outcomes on those who engage in it. Findings show that farm households diversify their livelihood mainly because of additional income and better standard of living accounting for 19.2% and 62.5% respectively. As a result of the risk inherent in agricultural production, single source income may fluctuate and farmers mitigate by income diversification The respondents also indicated the effect of employment diversification as presented in Table 2. A closer look at the phenomenon reveal that livelihood diversification has both positive and negative effects on the selected households. The major advantage as claimed by 28.3% of the respondents is that it has positive financial effect suggesting that livelihood diversification increased their economic capacity to meet their financial obligations including nuclear and extended family maintenance.

Corroborating this is the finding of Beardon and Barlett (2000) that in the presence of working capital constraint, off-farm earnings helps in maintaining a viable farm that cannot generate enough cash requirement for school fees of children, medicine, hospital bills clothing or food security

However, the negative effect of multiple jobs holding especially to rural non agricultural economy is that it leads to reduced productivity (table 2) due to lack of concentration on primary occupation.

 

### 3.3 Tobit and Probit Regression Results

Using econometric modeling, the determinants of livelihood diversification was investigated using Tobit model while Probit model was used to determine the poverty status of farm households in the study area. In both models, the same set of explanatory variables whose descriptive statistics are shown in table 1 were used. The results are presented in table 4. Tobit Regression results show that educational status and level of income were the significant determinants of livelihood diversification among farm households in Ekiti State.

The coefficient of educational level was negative and significant at 1% suggesting that the higher the educational status of farm households, the higher their involvement in multiple jobs. The plausible reason is that, the higher the educational level of a person, the more skilled or professional he seems to be and the less the tendency to engage in employment diversification. Corroborating this was the finding of Barret et al (2001) in their study on "none-farm income diversification and household livelihood strategies in rural Africa", they concluded that better education is one of most important determinants of income diversification . On the other hand, the coefficient of income is positive and significant at 1% implying that the higher their income, the higher their involvement in multiple jobs. The more a person has the more the quest for more.

Other regressors such as age (X3) and Access to credit facility (X9) though not significant but carried the expected signs. For instance, age is negatively signed suggesting that the older a respondents, the more his involvement in job diversification. This is because the older a person is, the more his responsibilities and the more the tendency to depend on many sources for more income .

The results of the Probit model (Table 5) shows that only two variables, marital status and educational background are the significant determinants of poverty status of the rural households in Ekiti state. Again the coefficient of education was positive and significant at 1% implying that the higher the respondents level of education, the better their standard of living. In other words, respondents with formal level of education (especially those educated to tertiary level) are engaged in better and well paid jobs than the illiterates. This is because education enhances the people"s potentials and make them grab available opportunities with little or no stress. On the other hand the coefficient of household size was negative but significant at 1% suggesting that, large family size respondents have lower standard of living probably because of increased consumption expenditure and other domestic responsibilities.

## 4. Conclusion

The changing socio-economic, political, environmental and climatic atmosphere in Ekiti State has continued to aggravate the living conditions of most rural households. The accompanying increase in poverty levels has led many households to devise a number of strategies to cushion the negative effects of these changes.

This study empirically estimated the determinants of livelihood diversification and poverty status of rural households in Ekiti State using Tobit and Probit models. Education and income levels were the significant determinants of the livelihood diversification of rural household in Ekiti State while education and marital status were significant determinants of poverty status. Livelihood was generally diversified with majority doing more than two jobs for more income and better standard of living. We therefore recommend that the Ekiti State government should intensify more efforts in enhancing human capital development for better standard of living of rural households. Also campaign and sensitization of rural households on family planning and child spacing techniques should be pursued vigorously to reduce family sizes. It is envisaged that the results of the study will be useful and offers important insight as to what sorts of intervention might be effective in reducing poverty and vulnerability in rural Ekiti state.

## REFERENCES

Barret, C.B, Readon T. and Webb P. (2001): Non Farm Income Diversification and Household Livelihood Strategies in Rural Africa; Concepts, Dynamics and Policy Implications; Food Policy 26(2): 315-331.

Ellis, F 91998): "Household Strategies and Rural Livelihood Diversification, the Journal of the Development Studies vol. 35, No 1 pp 1-38.

Idachaba, F.S. (2000): "Desirable and Workable Agricultural Policies for Nigeria in the first of the 21st Century. Department Lectures on Tropical Issues in Nigeria, Agriculture, Department of Agricultural Economics University of Ibadan pp. 7-25.

Reardon, T. (1998): Rural Non-farm Income in Developing Countries" Importance and Policy Implications, the State of Food and Agriculture 1998, FAO, Rome.

Beardon, D and Barlett P.F. (2000): Part-time Farming Saving the Farm or Saving the Life Style.

 

Kabir, M.S and Xuenxi Hou (2012): Impact of Small Entrepreneurship on Sustainable Livelihood Assets of Rural Poor Women in Bangladesh College of Economics and Management, North West Adf University, yangling, 712100, China.

Table 1: Socio-economic Distribution of the respondents

| **Sex** | **Frequency** | **Percentage** | **Cumulative %** |
|---|---|---|---|
| Female | 34 | 28.3 | 28.3 |
| Male | 86 | 71.7 | 100.0 |
| **Total** | **120** | **100.0** | |
| **Age** | | | |
| 20-30 | 13 | 10.8 | 10.8 |
| 31-40 | 47 | 39.2 | 50.0 |
| 41-50 | 41 | 34.2 | 84.2 |
| 51-60 | 10 | 8.3 | 92.5 |
| 61-69 | 9 | 7.5 | 100.0 |
| **Total** | **120** | **100.00** | |
| **Marital status** | | | |
| Single/Divorced Widowed (0) | 29 | 24.2 | 24.2 |
| Married (1) | 91 | 75.8 | 100.0 |
| **Total** | **120** | **100** | |
| **Educational Background** | | | |
| No formal education (0) | 6 | 5.00 | 5.00 |
| Primary Education (1-6) | 59 | 49.1 | 54.1 |
| Secondary Education (7-12) | 41 | 34.2 | 88.3 |
| Tertiary Education (13-16) | 14 | 11.7 | 100.0 |
| **Total** | **120** | **100** | |
| **Household size** | | | |
| 1-3 | 39 | 32.5 | 32.5 |
| 4-6 | 57 | 47.5 | 80 |
| 7-9 | 18 | 15 | 95 |
| >10 | 6 | 5 | 95 |
| **Total** | **120** | **100** | |
| **Dependants** | | | |
| 0-2 | 32 | 26.6 | 26.6 |
| 3-5 | 78 | 64.9 | 91.5 |
| $\geq$ 6 | 10 | 8.5 | 100.0 |
| **Total** | **120** | **100.0** | |
| **Primary occupation** | | | |
| Farmer | 61 | 50.8 | 50.8 |
| Teacher | 4 | 3.3 | 54.2 |
| Trader | 21 | 17.5 | 71.7 |
| Medical Practitioner | 2 | 1.7 | 73.3 |
| Law enforcement agent | 1 | 0.8 | 54.2 |
| Lawyer | 2 | 1.7 | 77.5 |
| Tailor | 12 | 10.0 | 87.5 |
| Artisan | 15 | 12.5 | 100 |
| **Total** | **120** | **100** | |
| **Access to credit** | | | |
| No | 86 | 71.7 | 71.7 |
| Yes | 34 | 28.3 | 100.0 |
| **Total** | **120** | **100** | |

 

Table 2: Distribution of the Respondents according to Income Sources

| **No of Jobs** | **Frequency** | **Percentage** | **Cumulative %** |
|---|---|---|---|
| 1 job | 14 | 11.7 | 11.7 |
| 2 jobs | 43 | 35.8 | 47.5 |
| 3 jobs | 48 | 40.0 | 87.5 |
| > 3jobs | 15 | 12.5 | 100.0 |
| **Total** | **120** | **100** | |
| **Reasons for more than one job** | | | |
| Earn more income | 23 | 19.2 | 19.2 |
| Better standard of living | 75 | 62.5 | 81.7 |
| Acquire experience | 5 | 4.2 | 85.8 |
| Social contact | 2 | 1.7 | 87.5 |
| Planned career move | 1 | 0.8 | 88.3 |
| Non involvement | 14 | 11.7 | 100 |
| **Total** | **120** | **100** | |
| **Effect of having more than 1 job** | **Frequency** | **Percentage** | **Cumulative %** |
| Organizational problem | 1 | 0.8 | 8 |
| Positive financial effect | 34 | 28.3 | 29.2 |
| Limit to social life | 13 | 10.8 | 40.0 |
| Negative health effect | 8 | 6.7 | 46.7 |
| Inability to cater for family | 15 | 12.5 | 59.2 |
| Divided loyalty | 3 | 2.5 | 61.7 |
| Reduced farm productivity | 33 | 27.5 | 89.2 |
| Non involvement | 13 | 10.8 | 100.0 |
| **Total** | **120** | **100** | **100** |

Table 3. Distribution of respondents According to Job Activities Engaged in

| **Job** | **Frequency** |
|---|---|
| Hunting | 13 |
| Trading in non farm product | 30 |
| Artisanship | 24 |
| Agricultural marketing | 20 |
| Security (day or night) guard | 6 |
| Okada business | 7 |
| | **100** |

Table 4: Tobit Model Estimates of the Determinants of Livelihood Diversification among Farming Households in Ekiti State.

| Variable 1 | Coefficients | T | P>T | Std. Err. |
|---|---|---|---|---|
| Variable 2 | -0102905 | -1.60 | 0.111 | 0.006412 |
| Variable 3 | -0002946 | -0.85 | 0.395 | 0.0063706 |
| Variable 4 | -0073644 | -1.66 | 0.250 | 0.0063706 |
| Variable 5 | -004365 | -5.27 | 0.000*** | 0.0008276 |
| Variable 6 | -0016086 | -0.94 | 0.351 | .0017189 |
| Variable 7 | -0001904 | 0.20 | 0.842 | .0009554 |
| Variable 8 | -0079963 | 4.85 | 0.000*** | .00016487 |
| Variable 9 | -00052549 | 0.84 | .403 | .0062633 |
| Variable 10 | .0024521 | 0.41 | 0.684 | .0060151 |
| Constant | 1496438 | 7.47 | 0.000 | .200324 |

Number of observation = 120
Prob 7 Chi 2 = 0.0000
Log likelihood = 218.45086
*** = Significant at 1%

 

Table 5: Probit Regression Results

| Variables | Coefficients | Z | Pzz | Standard Error |
|---|---|---|---|---|
| Sex (X2) | .7614364 | 1.23 | 0.219 | .6197341 |
| Age (X3) | -.0553546 | -1.57 | 0.116 | 0.352299 |
| Family size (X4) | -1.105471 | -1.86 | 0.062*** | .5929874 |
| Education (X5) | .8680661 | 3.96 | .000*** | .2192918 |
| Marital status (X6) | -4494188 | -2.00 | 0.046 | .2251087 |
| Primary occupation (X7) | -0037408 | -0.05 | 0.960 | .753574 |
| Income (X8) | 0.50504 | 0.35 | 0.723 | .142491 |
| Access to credit (X9) | 1049854 | 0.19 | 0.848 | .546668 |
| Distant (X10) | 1420838 | 0.29 | 0.774 | .4959073 |
| Constant | -2204631 | -1.11 | 0.268 | 1.9915 |

Number of observation = 120
Prob 7 Chi 2 = 0.0000
Log likelihood = 23.15087
*** = Significant at 1%