

# ANALYSIS OF RURAL LIVELIHOOD DIVERSIFICATION STRATEGIES AMONG MAIZE FARMERS IN NORTH WEST PROVINCE OF SOUTH AFRICA

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## ABSTRACT

*Agriculture still represents the main economic livelihood activity for the majority of rural households in sub-Saharan Africa where it has been noticed that livelihood diversity is predictable or a custom. Rural livelihood in Africa is assertively connected to agriculture and natural resource use. The rural livelihood in Southern African is largely dependent on climate-sensitive sectors, South Africa inclusive. Agricultural production and rural household income in the study area are faced with pressure characterized as high population explosion, severe drought and low rainfall caused by climate change, poor soil fertility, soil erosion, land degradation, and many more that pushes rural households to diversify their livelihood strategies into off farm and non-farm income activities. This study was conducted in Ngaka Modiri Molema District Municipality in North West Province of South Africa. The purpose is to examine if the respondents in the study area diversify livelihood, identify the choice of livelihood diversification strategies and the determinants. A total number of 346 questionnaires were administered to the farmers in the district using the stratified random sampling technique. Data were captured, coded and analyzed using Special Packages for Social Sciences (SPSS) version 23, Eviews and STATA software. Descriptive statistics, multicollinearity analysis, probit model and Tobit regression model were used for the analysis. The results of the analysis concluded that majority of the respondents diversify their livelihood income from farming-based activities into off-farm and non-farm in which education, age, household size and the year of experience were the significant factors that influence the choice of livelihood diversification strategies in the study area.*

**Keywords:** Choice of Livelihood Diversification Strategies, Probit Regression, Tobit Regression, North West Province of South Africa.

## INTRODUCTION

Rural livelihood explains the well-being of the rural communities. It captures the vocational activities required by the rural people to sustain a living. In developing countries, especially in Africa, rural livelihood is assertively connected to agriculture and natural resource use. Davis et al. (2010), affirmed that roughly 90 percent of rural households are involved in farming activities, while in Asia and Latin America, 50 percent of the income is from farming activities (Davis et al., 2010). Mahendra (2011) also confirmed that the principal source of living for many of the Asia-Pacific countries is derived from agriculture; however, some other countries have an ample share of livelihood obtained from non-rural farming activities. Ahmed et

al. (2015) reported that the livelihood of rural Bangladesh mainly consists of farm activities with few non-farm activities. Though agriculture is the spine of livelihood in India, yet the majority of the uneducated agrarians have not been efficacious in tilling their land for maximum economic gain (Hedge, 2002).

The rural economy mainly in most of the sub-Saharan Africa (SSA) countries, still remain agrarian. In rural communities, small-scale farming such as crop farming and others are some of the common livelihood strategies for survival. According to Dzanku (2015), agriculture still represents the main economic livelihood activity for the majority of rural households in sub-Saharan Africa where it has been noticed that livelihood diversification is predictable or a custom. Notably, agriculture hires the largest percentage of the workforce and contributes to the prime quota of household income (Zezza et al., 2009; Davis et al., 2010). In Africa, 70 percent of the income in the rural households' area is from farming activities (Davis et al., 2010). Rural households are usually poor and majority report food shortages several months per year (Francis, 2002; Niehof, 2004).

Equivalently, the rural livelihood in Southern African is largely dependent on climate-sensitive sectors such as farming and natural resources for livelihood. A research carried out by UNECA-SA (2010), evidenced that in spite of swift urbanization, more than half of the people in the Southern African sub-region are still living in rural areas, mostly in villages. In the same vein, South Africa is no exception because the majority of the households in the rural areas are involved in farm-based activities, and such a trend could lead to the diversification of rural livelihood systems. Agriculture is deeply embedded in South Africa's culture, and many households in rural areas make their livelihood from some form of farming activities (Silva, 2009). The mainstay of rural household's livelihood in South Africa is agriculture because it provides either directly or indirectly, a source of livelihood for rural households. This finding is corroborated by Nkoana (2014), who posited that agricultural production (crop cultivation and livestock) is the principal source of livelihood in the KwaZulu-Natal, South Africa, which comprises mainly poor households.

Agricultural production and rural household income in the study area are faced with pressure characterized as high population explosion, severe drought and low rainfall caused by climate change, poor soil fertility, soil erosion, land degradation, and many more that pushes rural households to diversify their livelihood strategies into non-income and off-farm income activities. However, Anseeuw et al. (2001); Perret (2003), argued that rural households obtain a livelihood from various sources such as agricultural production and craft work, provide services in the form of own labour, trading and transfers (grants and remittances), and these create the core vocation of rural people's livelihood. Rural livelihood diversification is a means of attaining a living. Ellis (2000) defined diversification of livelihood as a process by which rural households generate a various collection of activities and social support capabilities in their strife for survival and improvement in their standards of living.

According to Gebru et al. (2018), livelihood diversification is explained as the upkeep and constant adjustment of a highly varied array of activities and works to curtail household income variability lessen the hostile impacts of seasonality, and offer occupation or additional income. Livelihood diversification enables rural household farmers to device other means to promote their level of income and minimize susceptibility to different livelihood shocks. Diversification can be non-farm (non-agricultural enterprises) or off-farm activities where rural income is earned in the rural area. According to Khatun & Roy (2012), livelihood diversification attempts could either be through diversification into an agricultural related activities e.g.

production of agri-foods or cash crops or into non-agricultural enterprises (engaging in casual jobs or migration). Kassie & Aye (2017) reported that farm households engage and follow various non-farm livelihood activities to cope with diverse challenges and risks such as drought. A study by Haggblade et al. (2010), reported that in the developing countries, rural household obtained their income from non-farm sources which was accounted for 35-50%. An empirical study done in Ethiopia revealed that non-farm income accounted for approximately 45% of the average income of a household (Bezabih et al., 2010). A previous empirical study by Haggblade et al. (2010), reported that rural residents in the developing countries received about 35-50% of their income from non-farm sources. In this regard, it is clearly seen that the involvement of non-farm income is enormous but varies from region to region and individual to individual due to dissimilar contextual influences. The purpose of this paper is to identify the choice of livelihood diversification, know whether farmers diversify their livelihood and lastly, determine the factors driving the choice of diversification. The significance of this study is to strengthen the factors that determine livelihood diversification and improve the rural economy for better livelihood sustainability.

## **RESEARCH METHODS**

### **The Study Area**

The study was carried out in Ngaka Modiri Molema District Municipality of the North-West Province. The province lies in the north of South Africa on the Botswana border, with the Kalahari Desert to the west, Gauteng province to the east and the Free State to the south. North West province is the fourth smallest province in the country. It consists of four district municipal councils (Ngaka Modiri Molema District Municipality, Bojanala Platinum District Municipality, Dr. Ruth Segomotsi Mompati District Municipality and Dr. Kenneth Kaunda District Municipality) which are in turn divided into 18 local municipalities. The province takes up about 8.7 percent of South Africa's land area (106 512 km<sup>2</sup>), with mining being the major contributor to the Province economy followed by farming activities in which maize is predominantly planted.

### **Data Collection, Sampling Procedure and Sample Size**

Data were sourced primarily, using questionnaires as a research tool. A stratified sampling technique was used to administer the questionnaires to the farmers. The questionnaire consisted of a logical flow of questions related to household socio-economic characteristics, livelihood information diversification, and farming based information. The data were captured and analyzed using Eviews, STATA and Statistical Package for Social Sciences (SPSS, version 23 of 2015) software.

$$S = \frac{n}{N} \times 346 \dots\dots\dots (1)$$

Where: S = sampled respondents from the selected study area (Ngaka Modiri Molema District Municipality), N = total population of the farming households in the 5 local municipalities across the district municipality. 346 = number of respondents sampled.

### **Method of Data Analysis**

Data were employed and analyzed using descriptive statistics such as frequency, percentages, mean and graphical representations. Descriptive statistics were used to analyze the

choice of livelihood diversification strategies among the respondents. Inferential statistics which include: probit regression model and Tobit regression model were used to determine the influencing factors. Before running the two inferential models, explanatory variables were checked for multicollinearity using Variation Inflation Factor (VIF) and contingency coefficient, respectively. The results indicated there were no multicollinearity problems, after which the Tobit regression model was adopted.

**Tobit Regression Estimate**

This model was estimated to analyze the factors driving the choice of diversification. Several livelihood diversification strategies used by the respondents which include; artisan, hunting and gathering, paid labour, trading and hawking; which could be categorized into two, better explained as off-farm and non-farm income-generating activities. However, some respondents in the study area adapted more than one diversification strategies at a time. Regarding this, livelihood diversification index was determined, which was achieved by dividing the number of livelihood diversification strategies used by the individual farmers by all the livelihood diversification strategies available in the study area. Since the total livelihood diversification strategies available is four, the index can be mathematically expressed as follows:

$$\frac{\text{Number of livelihood diversification strategies}}{\text{Total available diversification livelihood strategies}}$$

Thus, the value of the livelihood diversification strategies index ranges between zero (0) and one (1). Sequel to the above, following Oduniyi (2018), since the dependent variable is bounded between 0 and 1 (i.e., the variables are censored at 0.0 and 1.0), conventional regression methods fail to consider the qualitative difference between zero and continuous observations. However, Tobit model could combine the properties of multiple regression and Probit/Logit model. Therefore, Tobit model which was initially established for censored data was applied for the analysis. The model is specified as:

$$Y_i = \beta X_i \text{ if } y_i^* = \beta X_i + u_i > T_i \dots\dots\dots (2)$$

$$Y_i = \beta_0 + \beta_i X_i + u_i \dots\dots\dots (3)$$

Where:

- $u_i$  = normally distributed with zero mean and constant variance
- $X_i$  = vector of explanatory variables
- $\beta_i$  = vector of the parameter estimates

The model is fully estimated as follows:

$$y_i^* = \beta_0 + \beta_1 x_i + \epsilon_i = x_i' \beta + \epsilon_i, \epsilon_i \sim N(0, \sigma^2) \dots\dots\dots (4)$$

$$\text{If } y_i^* > 0 \Rightarrow y_i = \text{livelihood diversification strategies} = y_i^* = x_i' \beta + \epsilon_i \dots\dots\dots (5)$$

$$\text{If } y_i^* \leq 0 \Rightarrow y_i = 0 \text{ (} y_i^* \text{ can be negative, but if it is, } y_i = 0 \text{)} \dots\dots\dots (6)$$

$$\text{Probability Model } -\epsilon_i \sim N(0, \sigma^2) \dots\dots\dots (7)$$

$$\text{Prob}(y=0|x) = \text{Prob}(y^* \leq 0|x) = \text{Prob} [(y^* - X\beta)/\sigma \leq (0 - X\beta)/\sigma|x] \dots\dots\dots (8)$$

$$\text{Prob}[z \leq -X\beta/\sigma|x] = \Phi(-X\beta/\sigma) = 1 - \Phi(X\beta/\sigma) \dots\dots\dots (9)$$

$$\text{Prob}(y>0|x) = \text{Prob}(y^* > 0|x) = 1 - \Phi(-X\beta/\sigma) = \Phi(X\beta/\sigma) \dots\dots\dots (10)$$

**Probit Regression Estimate**

This model was estimated to determine whether the individual respondent diversify their livelihood from farming activities or not. The model perfectly fits the objective well as it takes into account where the dependent variable is of two categorical outcomes, i.e. yes or no which

was coded 1 and 0 respectively. In regard to this case, a respondent who diversified was accounted for yes (1) and not diversified was accounted for no (0).

The model could be econometrically stated as:

$$P_i = F(Z_i) = \frac{1}{1 + e^{-(\alpha + \sum \beta_i X_i)}} \dots \dots \dots (11)$$

Where  $P_i$  is the probability that a respondent diversifies

$X_i$  represents the  $i^{th}$  explanatory variables

$\alpha$  &  $\beta_i$  are regression parameters to be estimated.

$e$  is the base of the natural logarithm

For ease of interpretation of the coefficients, a probit model could be written in terms of the odds and log of odd. The odds ratio is the ratio of the probability that a respondent diversify livelihood income ( $P_i$ ) to the probability that a respondent did not diversify livelihood income ( $1-P_i$ ).

That is,

$$\left(\frac{P_i}{1-P_i}\right) = e^{Z_i} \dots \dots \dots (12)$$

And taking the natural logarithm of equation (2) yields:

$$\ln\left(\frac{P_i}{1-P_i}\right) = Z_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_m X_{im} \dots \dots \dots (13)$$

If the disturbance term  $U_i$  is considered, the probit model becomes:

$$z_i = \alpha + \sum_{i=1}^m \beta_i X_i + U_i \dots \dots \dots (14)$$

The parameters of the model,  $\alpha$  and  $\beta$  can be estimated using the maximum likelihood method. Prequel to this, the results were shown in the tables below.

## RESULTS AND DISCUSSION

### Choice of Livelihood Diversification Strategies

The result from Table 1, revealed that about 46.8% of the respondents engaged only on the farm activities for income generation. They could not diversify their livelihood from maize production. On the other hand, more than half of the respondents (53.2%) interviewed, diversified their livelihood into various strategies or options which was categorized into off-farm and non-farm income-generating livelihood strategies as shown in Table 2. This is supported by Gebru et al. (2018), who reported that majority (83.1%) of the farmers were able to diversify their livelihoods. However, a combination of various livelihood strategies was noted, in which a respondent could adopt more than one choice of livelihood strategies at a time.

|   |   |
|---|---|
| <b>Table 1</b>  |   |
| <b>DESCRIPTION OF VARIABLES USED IN THE MODELS</b>                          |   |
| <b>Tobit Regression Model</b>   |   |
| <b>y (dependent variable) = livelihood diversification strategies index</b> |   |
| Choices of livelihood diversification strategies (J):                       |   |
| J1 = Artisan  |   |
| J2 = Trading and hawking  |   |
| J3= Paid labour   |   |
| J4= Hunting and gathering   |   |
| <b>Probit Regression Model</b>  |   |
| y = 1   | Respondent diversify their livelihood     |
| y = 0   | Respondent diversify not their livelihood |

| <b>Explanatory Variables</b> |   |                      |
|------------------------------|---|----------------------|
| <b>Variables</b>             | <b>Description And Unit Of Measurement</b>              | <b>Expected Sign</b> |
| Education                    | Categorical, education level of the respondent in years | +                    |
| Farm Size                    | Categorical, size of the respondent farm in hectare     | -                    |
| Gender                       | Binary, 1 if the head is male and 0 if female           | +/-                  |
| Age                          | Continuous, age of the respondent in years              | +/-                  |
| Household size               | Continuous, size of the family of the respondent        | +                    |
| Marital Status               | Categorical, marital of the respondent                  | -                    |
| Farming Experience           | Continuous, respondents' number of farming in years     | +                    |
| Access to Input              | Binary, 1 if the respondent has access and 0 if no      | +/-                  |
| Access to Credit             | Binary, 1 if the respondent has access and 0 if no      | +/-                  |
| Access to Extension          | Binary, 1 if the respondent has access and 0 if no      | +/-                  |
| Access to Irrigation         | Binary, 1 if the respondent has access and 0 if no      | +/-                  |

Source: Author's Computation, 2018

| <b>Table 2<br/>COMBINATION OF THE CHOICE OF LIVELIHOOD DIVERSIFICATION STRATEGIES<br/>IN THE STUDY AREA</b> |                  |                |
|---|------------------|----------------|
| <b>Choice of livelihood diversification</b>   | <b>Frequency</b> | <b>Percent</b> |
| Artisan   | 120              | 65             |
| Trading and hawking   | 95               | 51.6           |
| Paid labour   | 105              | 57             |
| Hunting and gathering   | 15               | 57             |

Source: Author's Computation, 2018

### **Livelihood Diversification**

Table 3 revealed that more than half of the farmers were able to diversify their livelihood income from farming activities into other means as being shown above. Table 4 explained the parameters responsible for livelihood diversification among the respondents in the study area, which includes: education, age, household size, and farming experience. Table 5 revealed that the education of the respondents in the study area was statistically significant ( $p < 0.05$ ) with a positive coefficient (0.120403) which depict that education increase the probability of livelihood diversification. Education contributes to livelihood diversification of the respondent in the study area in such a way that the more the education the more the diversification of livelihood. According to Table 4, most of the respondents (34.4%) fall within the educational level of Standard 1 -5. This shows that Table 5, revealed that the age of the respondents in the study area was statistically significant ( $p < 0.005$ ) with a negative coefficient (-0.119816) which explained

that age decreases the probability of livelihood diversification. The higher the age the lower the diversification of livelihood, in which the most age categories fall within 61-70 which amounted to 34.7%.

The household of the farm was statistically significant ( $p < 0.05$ ) with a positive coefficient (0.160874) as shown in Table 5. The result revealed that the higher the household size the more likely a respondent (a rural household head) diversifies their livelihood income in order to sustain the household. Table 4 explained that most of the household size falls within the category of 4-6 which accounted for 40.2%. Table 5, revealed that farming experience was statistically significant ( $p < 0.01$ ) with a negative coefficient (-0.125785), explaining that the number of years of experience in farming decrease the probability of livelihood diversification. This is better explained that the more experienced in farming the lower the diversification of livelihood as the individual would have mastered the up and downs in the farming activities. According to Table 4, most of the respondents fall within the category of 6-10 years which accounted for 26.6%.

| Livelihood diversification | Frequency | Percent |
|----------------------------|-----------|---------|
| yes                        | 162       | 46.8    |
| no                         | 184       | 53.2    |
| Total                      | 346       | 100     |

Source: Author's Computation, 2018

| Variables             | Frequency | Percentage |
|-----------------------|-----------|------------|
| <b>Age</b>            |           |            |
| 18-30                 | 39        | 11.3       |
| 31-40                 | 68        | 19.7       |
| 41-50                 | 61        | 17.6       |
| 51-60                 | 56        | 18.2       |
| 61-70                 | 120       | 34.7       |
| 71-80                 | 2         | 34.7       |
| <b>Education</b>      |           |            |
| Pre-school            | 11        | 3.2        |
| Sub Standard A & B    | 30        | 8.7        |
| Standard 1 -5         | 119       | 34.4       |
| Standard 6 -10        | 91        | 26.3       |
| Higher                | 27        | 7.8        |
| None                  | 68        | 19.7       |
| <b>Household Size</b> |           |            |
| 1-3                   | 108       | 31.2       |
| 4-6                   | 139       | 40.2       |
| 7-9                   | 62        | 17.9       |

|                                    |    |      |
|------------------------------------|----|------|
| 10-12                              | 20 | 5.8  |
| 13-15                              | 17 | 4.9  |
| <b>Years of Farming/Experience</b> |    |      |
| 1-5                                | 23 | 6.6  |
| 6-10                               | 92 | 26.6 |
| 11-15                              | 88 | 25.4 |
| 16-20                              | 49 | 14.2 |
| 21-25                              | 13 | 3.8  |
| 26-30                              | 58 | 16.8 |
| 31-35                              | 11 | 3.2  |
| 36-40                              | 12 | 3.5  |
| Source: Author's Computation, 2018 |    |      |

| <b>Table 5</b>   |             |                       |             |           |
|--|-------------|-----------------------|-------------|-----------|
| <b>PARAMETER ESTIMATES OF THE PROBIT REGRESSION ANALYSIS ON LIVELIHOOD DIVERSIFICATION</b> |             |                       |             |           |
| Variable   | Coefficient | Std. Error            | z-Statistic | Pr(> z )  |
| Education  | 0.120403    | 0.057885              | 2.080042    | 0.0375    |
| Farm Size  | 0.070326    | 0.056841              | 1.237255    | 0.216     |
| Gender   | -0.014969   | 0.19956               | -0.075009   | 0.9402    |
| Age  | -0.119816   | 0.060117              | -1.993038   | 0.0463    |
| Household Size   | 0.160874    | 0.071208              | 2.259213    | 0.0239    |
| Marital Status   | -0.080033   | 0.087878              | -0.910724   | 0.3624    |
| Farming Experience   | -0.125785   | 0.042899              | -2.93214    | 0.0034    |
| Access to Inputs   | -0.211699   | 0.154495              | -1.370268   | 0.1706    |
| Access to Credit   | 0.02013     | 0.163897              | 0.122818    | 0.9023    |
| Access to Extension  | 0.043178    | 0.150973              | 0.285996    | 0.7749    |
| Access to Irrigation   | -0.154669   | 0.150025              | -1.030959   | 0.3026    |
| C  | 0.588667    | 0.674429              | 0.872838    | 0.3828    |
| McFadden R-squared   | 0.070548    | Mean dependent var    |             | 0.517341  |
| S.D. dependent var   | 0.500423    | S.E. of regression    |             | 0.484166  |
| Akaike info criterion  | 1.35674     | Sum squared resid     |             | 78.29527  |
| Schwarz criterion  | 1.490142    | Log likelihood        |             | -222.716  |
| Hannan-Quinn criter.   | 1.409861    | Deviance              |             | 445.432   |
| Restr. deviance  | 479.2416    | Restr. log likelihood |             | -239.6208 |
| LR statistic   | 33.80957    | Avg. log likelihood   |             | -0.643688 |
| Prob(LR statistic)   | 0.000389    |                       |             |           |
| Obs with Dep=0   | 167         | Total obs             |             | 346       |
| Obs with Dep=1   | 179         |                       |             |           |
| Source: Author's Computation, 2018   |             |                       |             |           |

### Determinant to Livelihood Diversification

The factors that influence the choice of livelihood diversification are explained in this section which includes: education, age, household size, and farming experience.



| Variable                           | Coefficient | Std. Error            | z-Statistic | Pr(> z ) |
|------------------------------------|-------------|-----------------------|-------------|----------|
| Education                          | 0.061097    | 0.028063              | 2.177109    | 0.0295   |
| Farm Size                          | 0.036276    | 0.02872               | 1.263098    | 0.2066   |
| Gender                             | 0.015625    | 0.099358              | 0.157265    | 0.875    |
| Age                                | -0.058418   | 0.029573              | -1.9754     | 0.0482   |
| Household Size                     | 0.085764    | 0.03468               | 2.473006    | 0.0134   |
| Marital Status                     | -0.045346   | 0.045405              | -0.998714   | 0.3179   |
| Farming Experience                 | -0.065975   | 0.021646              | -3.047903   | 0.0023   |
| Access to Inputs                   | -0.111913   | 0.075535              | -1.481598   | 0.1384   |
| Access to Credit                   | -0.000113   | 0.080907              | -0.001396   | 0.9989   |
| Access to Extension                | 0.010494    | 0.074861              | 0.140186    | 0.8885   |
| Access to Irrigation               | -0.067306   | 0.073766              | -0.912423   | 0.3615   |
| C                                  | 0.408792    | 0.331736              | 1.232283    | 0.2178   |
| <b>Error Distribution</b>          |             |                       |             |          |
| SCALE:C (13)                       | 0.580966    | 0.035248              | 16.48211    | 0        |
| Mean dependent var                 | 0.351879    | S.D. dependent var    |             | 0.350347 |
| S.E. of regression                 | 0.338065    | Akaike info criterion |             | 1.6968   |
| Sum squared resid                  | 38.05794    | Schwarz criterion     |             | 1.84132  |
| Log likelihood                     | -280.5465   | Hannan-Quinn criter   |             | 1.754349 |
| Avg. log likelihood                | -0.810828   |                       |             |          |
| Source: Author's Computation, 2018 |             |                       |             |          |

Education was statistically significant ( $p < 0.05$ ) with a positive coefficient (0.061097) which implies that education increases the choice of livelihood diversification strategies of the respondents by 6%. This is better explained that an educated respondent has the knowledge to diversify from farming to other choices of livelihood strategies in order to sustain livelihood compare to the non-knowledgeable respondent. Table 6 revealed that age was statistically significant ( $p < 0.05$ ), and the coefficient was negative (-0.058418), which means that the age of the respondent negatively influences the choice of livelihood diversification strategies, thus, reduced by about 5.8%. The reason is not farfetched from the fact that most young people in the study area find other opportunities in the mine and some neglect farming with a stigma of 'meant for the old'. This result is supported by Gebru et al. (2018), who reported that young households are relatively better educated, have better access to technologies, and look for alternative livelihood opportunities.

Table 6 revealed that the household size was found statistically significant ( $p < 0.05$ ), and positively influence the choice of livelihood diversification strategies. The result explained that an increase in the number size of a household in the study area could increase the choice of livelihood diversification strategies by 8.5%. A large household size tends to diversify and find other sources of livelihood strategies to sustain the family. Increase in household size may intensify labour availability, which will make it easier for the household to let some members

engage in off-farm and other income-generating activities. In the same manner, the farming experience was found statistically significant ( $p < 0.01$ ) and the coefficient was negative (-0.065975), which explained that farming experience decreases the choice of livelihood diversification strategies.

## CONCLUSION AND RECOMMENDATION

The findings in this study revealed that majority of the respondents in the study area diversified their livelihood strategies from on-farm activities based into various choices of livelihood strategies which were categorized into Off-farm and Non-farm income activities. The factors influencing the choice of livelihood diversification in the study area were identified to be: education, age, household size, and farming experience. The study, therefore, recommends that in order to improve the livelihood of the respondents in the study area, the government should promote the quality of education and training, develop a framework to involve more young people in agriculture.

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