# SOCIO-ECONOMIC AND INSTITUTIONAL FACTORS INFLUENCING LIVELIHOOD DIVERSIFICATION AMONG RURAL FARMERS IN KAJURU LOCAL GOVERNMENT AREA KADUNA STATE, NIGERIA

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**OCTOBER, 2015**

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**MSc/AGRIC/10590/2011-12**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF POST GRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN AGRICULTURAL EXTENSION AND RURAL SOCIOLOGY**

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## DECLARATION

I hereby declare that this dissertation titled **"Socio-Economic and Institutional Factors Influencing Livelihood Diversification among Rural Farmers in Kajuru Local Government Area Kaduna State, Nigeria"** was written by me. No part of this dissertation has been presented in any previous application for another degree or diploma in this or any other institution. All borrowed information have been duly acknowledged in the text and a list of references provided.

_____ _____

**Dio Nathan DANSALLAH** **Date**
Student

## CERTIFICATION

This dissertation titled "**Socio-Economic and Institutional Factors Influencing Livelihood Diversification among Rural Farmers in Kajuru Local Government Area Kaduna State, Nigeria"** by Dio Nathan DANSALLAH meets the requirements governing the award of the degree of Masters of Science in Agricultural Extension and Rural Sociology of the Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

_____ _____

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**Prof. K. Bala** Date
Dean, Postgraduate School

## DEDICATION

This study is dedicated to my dear wife.

## ACKNOWLEDGEMENTS

I wish to express my profound gratitude to my supervisor, Prof. T.K Atala for his painstaking and careful guidance throughout the course of this study. In the same vain I am deeply grateful to Dr. M. W. Musa, my co – supervisor for his immense guidance and valuable suggestions in the course of this study. Special appreciation also goes to the Head of Department, Prof. Z. Abdulsalam, for his encouragement and moral guidance.

I am also indebted to Mr. I.U. Gadzama for his friendly encouragement, advice and suggestion. I am indebted to my wife, Mrs. Tina Dio, for her prayers, patience and understanding. I equally want to thank Mallam Ishaya Zango, Alh. Sadiq Bakoh, for data analysis and interpretation of the results of the study.

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## ABSTRACT

This study analyzes the socio-economic and institutional factors influencing livelihood diversification among rural farmers in Kajuru Local Government Area of Kaduna state, Nigeria. The specific objectives were to examine the socio – economic and institutional factors influencing rural people to seek other sources of livelihood beside agricultural production in Kajuru Local Government Area of Kaduna State. It examines the nature and socio-economic characteristics rural farmers in Kaduna State, the sources of livelihood diversification of the farmers in the area, determines the socio – economic factors that influenced farmers' decision for livelihood diversification in the study area, and also the effect of livelihood diversification poverty reduction among rural farmers. Quantitative methods were collected through the use of questionnaires. The analytical tools employed include descriptive statistics, spearman rank correlation coefficient, Z – test and chi – square. Data were collected through the use of structural questionnaires administrated to 120 respondents who were randomly selected. Data collected were analyzed using frequency counts, percentage, average, spearman rank correlation coefficient, Z – test and chi – square. The findings reveals that (30%) of the farmers were operating at a low level of livelihood diversification, that is, were engaged in not more than one livelihood diversification activities besides farming.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

Despite the growing attention being focused on diversification, there is still no general agreement about the impact of these income sources on inequality (Adams 2001). Similarly, the general belief that income inequality is closely related to poverty and that poverty and inequality are more wide – spread and more prevalent in rural areas than urban areas. The starting point is to understand the 'wealth of the poor, which may be reflected in such assets as indigenous knowledge, special skills individuals and grouped resourcefulness and social support system, and the strategies that people use to cope with formidable hardship (Husseini and Nelson, 1998). The rural poor have developed capacity to cope with increasing vulnerability associated with agricultural production diversification, intensification and migration or moving out of farming (Ellis 1998).

Diversification as a strategy involves the attempt by individuals and households to find new ways to raise income and reduce environmental risk which differs sharply by the degree of freedom of choice (diversified or not) and the reversibility of the outcome (Husseini and Nelson 1998). The existing gap in poverty in the urban and rural sectors in the sub – sahara Africa have therefore attracted the attention of the social scientists to the study of rural livelihood (Nass et al 2010). Butler and Mazur (2004) equally observed that Africa development which is lagging significantly behind much of GLOBAL south despite decades of assorted development approaches has been receiving increased attention as the United Nation Millennium Development Goals (MDGS) provides the goal for international development effort through 2013. The concern and

attention shown on lagging areas have called for change from emphasis on development strategies that focus on problems identification and needs assessment to approaches that placed priority of the livelihood under severe environmental economic and political stress.

## 1.2 Statement of Research Problem

In Nigeria, the agricultural sector is plagued with problems which include soil infertility, inadequate infrastructure, risk of uncertainty and seasonality among others. Thus rural households are forced to develop strategies to cope with increasing vulnerability associated with agricultural production through diversification, intensification and migration or moving out of farming (Ellis, 2000).Dixon (1994) points out that to classify people in terms of access to land and involvement in agriculture is to observe the degree to which rural households engage in other activities and derives income from wide and variable range of sources. Kinsella *etal*., (2000) highlights this point when they pointed out that the stability of rural population as a whole requires a broader Spectrum of activities than agriculture alone Ellis (1998) and Edna *etal.* (2007) reported that agricultural production on its own rarely provide a sufficient means of survival in rural communities of low-income countries and rural households have to diversify their sources of livelihood.

This phenomenon is not just a temporary or transient one reflecting the transition between full-time agriculture to full-time industry and service, but has shown to be of stable or at least of persistence nature. The prevalence of livelihood diversification among rural households such as (trading or adding value to commodities) small scale business enterprise carpentry, radio and bicycle repairs), Processing of agricultural goods arts and craft (Blacksmithing, mat and basket making among rural dwellers (Ellis

1998 and Krishnan, 1996, Ekong. 2003) as witnessed today call for a better understanding of factors influencing level of livelihood diversification, the reasons for diversifying livelihood and the effects on households livelihood. Understanding how and why rural people change their income generating activities is a key to developing effective strategies to support the process. There is also an erroneous impression that rural people are homogenous in their activities. Reasons for this, observed diversification include declining farm incomes and the desire to ensure against agricultural production and market risk Matsumoto *et al.* (2006).It is against this backing that the study sets out to proffer answers to the following questions.

i. What are the levels of livelihood diversification in the study area?

ii. Why do rural people diversify their sources of livelihood?

iii. What are the socio economic-factors influencing livelihood diversification in the area?

iv. What are the perceptions of rural farmers on poverty reduction due to livelihood diversification?

v. What are the effects of livelihood diversification on poverty reduction of the respondents?

## 1.3 Objectives of the Study

The broad objectives of the study were to analyze socio–economic and institutional factors influencing livelihood diversification among rural farmers in Kajuru Local Government Area of Kaduna State. The specific objectives were to:

i. Examine the level of livelihood diversification of the rural famer in Kaduna state;

ii. Assess the sources of livelihood diversification of the famers in the area;

iii. Determine the socio-economic factors that influence farmers decision for livelihood diversification;

iv. Assess the perception of poverty due to livelihood diversification;

v. Determine the effect of livelihood diversification poverty reduction among rural farmers.

## 1.4 Justification of the Study

It is obvious that agricultural production is not the only activity that sustains rural farmers and their families (Ellis. 1998 and scone 1998).Hence, rural households livelihood involve both on-farm and off-farm activities. Therefore any attempt to address rural poverty, unemployment and inequality among rural dwellers must give equal consideration to on-farm and off-farm activities of the farmer. However, Olatunbosun and Ekong (2003) reported that, little attention is given to this important aspect and efforts aimed at reducing peasants problems such as poverty, unemployment and under-employment in Nigeria are often only directed at increased agricultural production, extension service and Infrastructural development. However, these strategies are often poorly understood and attempts to assist this process have tended to be based on only a limited understanding of factors or forces that are liable to ensure success (Campbell, 2007).

Therefore this study is to examine rural livelihood diversification with a view to broaden our knowledge about livelihood and also provide basic and useful information that can assist researcher and policy makers interested in rural livelihood well-being to

design appropriate strategies and actions that can reduce rural poverty and empower rural people.

Therefore, this study is desirable, especially that previous efforts at reducing rural poverty and its appendages have not achieved the desired result in Nigeria (Maduagwu 2000).

## 1.5 Hypotheses

In this study, the following hypotheses were tested.

i. There is no significant relationship between socio-economic factors and rural households' livelihood diversification of the farmers.

ii. There is no significant relationship between livelihood diversification and rural household poverty reduction.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Livelihood Diversification among Rural Farmers

Rural household's participation in livelihood diversification varies reflecting the different assets available each households therefore engage in livelihood diversification depends on the possession of these assets.

In the last decades, development researches have focused on understanding the determinants of vulnerability of livelihood sources and intensification of poverty among rural people. This has produced much empirical studies of income and activity diversification, documenting various reasons why households simultaneously participate in more than one income earning activities (Reardon *et al*., 1992; Ellis, 2000). Ellis (1998) distinguished between pull and push factors that necessitate diversification. Pull factors are incentives that afford households the choice to participate in multiple income earning activities because they are attracted by some business opportunities such as to take advantage of forward or backward business integration or to invest their savings from some other rewarding activity. Push factors however, are constraints that leave a household no other choice than to diversify in response to desperate circumstances where income from only one or two activities is insufficient to meet daily needs. For many poor rural households, diversification may well be conditioned by "push" factors. As land becomes scarce and agricultural productivity declines; and as households face fluctuations in their incomes, having more than one source of income becomes the only imperative to survive.

Bryceson, (2002) points to a situation where this "scramble" for living leads to de-agrarianisation or the shifting of livelihoods away from farming to other non-farm

activities. This study considers the extent to which diversification is shifting activities away from traditional agriculture. The position, which has been verified by Barret et al, (2000b), is that heterogeneous constraints that households face characterize their choices of activities. For instance, differences in agro-ecology across communities are important in deciding the nature of diversification across communities.

According to Babatunde and Quaim (2009), the pattern of income diversification among rural households in Nigeria show that majority of the household have fairly diversify their income sources. On the average while only fifty percentage of the total household income is generated from farming, the rest come from different off-farm sources Ekong (2003). However there are notable differences across income stratum. This is said to be a natural starting point for the poor rural producers with low level of capital, who may be able to restructure their production mix more easily than to invest in other non-agricultural area, for example, crop-livestock integration, food and cash crops and agricultural processing (Hussein and Nelson, 1998). Livelihood diversification can also be observed via non-agricultural enterprises Food and Agricultural Organization (2002) identify the following levels of rural enterprises.

i. Subsistence enterprises in seasonal, part-time, diversified economic activities typically operated by low income persons and especially women in risk averse households.

ii. New Micro- enterprises: Largely based on single economic activities which is multi- seasonal and receives routine reinvestment.

iii. Growth orientated enterprises: Adjust production techniques to permit expansion into new product line and new markets.

iv. Mature Micro-enterprises: Growth oriented and matured enterprises are predominance's operated by men and tend to benefit from traditional systems which require clear legal to physical collateral to back a loan. Gordon (2000) observes that although agricultural sector has tended to receive most policy attention in the rural areas, the rural poor derive their income from multiple sources even in relatively undiversified economics; Ellis (2000) equally identifies the following diverse income portfolio.

i. Agricultural (own farm, tenant farmers or wage labour)

ii. Migration of 9 domestic and overseas, seasons, seasonal or long – term)

iii. Daily travel to nearby town for urban employment

iv. Local wage labour opportunities

Self-employment in trades agro-processing, tailoring or services etc. Kinsella *etal* (2000) observes that in Africa non- farm activities are widespread, and constitute 20to 45 percent of full- time employment and 30 to 50 percent of rural households' income. Haggblade *etal.* (1989) and Hussein and Nelson (1998) argues that women dominant Many non-farm activities such as food processing and preparation, tailoring, trading, ceramics and weaving, and will be key actors in the economic transition of Africa's rural economy. It becomes evident that livelihood diversification takes place at all levels of rural economy and those rural peoples linkages with market and urban centre are equally important. Location, wealth and gender influence an individual's level of involvement in this process, and it does not seem that many rural people are totally excluded from it (Hussein and Nelson, (1998).

## 2.2Assessing the Sources for Rural Household Livelihood Diversification

A livelihood strategy can be defined as an activity or a set of activities in which a household engages to make a living which could be in agriculture, non-agriculture or cuts across both sectors. Both economic and other set of factors constitute critical decision parameters that shape activity choices of households. Assets, skills, incomes or generally, endowments are as important as social class, opportunities, family networks, ethnicity, institutional and political regimes governing access to opportunities, social capital, and household's perception of risk in determining which activities households participate in (Takasaki *et al*., 2000; Dercon, 1998; Zimmerman and Carter, 1999; Barret *et al*., 2000a). In addition to these, seasonality, labour market differences, risk variability, liquidity constraints owing to imperfection in the market for credit, insurance, land and labour etc. have also been found to be relevant (Alderman and Sahn, 1989; Ellis, 1998). However, most studies have mainly focused on those factors that readily lead to quantification such as assets, incomes, endowments etc. to understand the reasons why households have many income sources.

Hussein and Nelson (1998) reports that both push factor such as environmental risk, falling income and pull factor, changing terms of trade, perceptions of improved opportunities) may be involved in spurning or the process of livelihood diversification may be invested in a variety of other activities to be generated so diversification may be undertaken to support the improvement of livelihoods, allowing surpluses that can be invested in a variety of other activities to be generated. So diversification may lead to increased investment in local production (Reardon *etal.,* 1992). Chamber (1997) observes that poor people in particular normally have to diversify sources of livelihood in order to survive in a risk prone and uncertain world. This is especially true for West Africa since Sahelian people have historically preferred to diversify than intensify

primary production activities. So diversification may be undertaken to maintain livelihood by providing flexibility among sources of income, in case primary production activities fails. Ellis (1998) observes that livelihood diversification occurs for many different reasons. Underlying trends and processes include, rural population growth, farm fragmentation and declining returns to farming compared to other activities Reardon *etal.* (1992) emphasize that farmers may consider the instruction of alternative farm enterprises as a risk reduction (survival) or accumulation strategy. Marsden (1987) equally distinguishes between accumulation and survival strategies as motivations for the development of non-agricultural business enterprise and argued that the concept of survival strategy is more appropriate within the changing policy context in the late 1980. Jiggins (1986) also defines livelihood diversification especially in sub- Sahara Africa as strategy employed by rural people to cope with crises and stress by migrating or seeking for employment in urban centers. Chen (1991) support this argument in his study of seasonal coping strategies in Gujarant (India) where he observes that coping is employed seasonally or in response to external shocks, (draught) by relatively vulnerable households. Butler and Mazur (2004) see food security as a critical human development need in African rural communities and argue that livelihood diversification is essential to food security and improved income.

## 2.3 Determinants of Livelihood Diversification among Rural Farmers

At a micro – level a livelihood can be considered as the "assets (natural, physical, human, financial and social capital). The activity that access to the mediated by which institution and social relation that together determine the loving gained of individual or household" (Butler and Mazur, 2004:5). Report that rural households typically cannot obtain sufficient food and income from farming alone, they develop and depend on

diverse portfolio of activities and sources of income that nurture and enable such diversity to be secure and sustained (Ellis 2000). Diversify or multiplicity of food and income sources requires relatively complex network of social relations to buttress them. "Diversification is the creation of diversify as an ongoing social and economic process, reflecting factors of both pressure and opportunity that cause families to adopt increasing" intricate and diverse livelihood strategies (Butler and Mazur, 2004:5).

Kinsella *etal*. (2000) reports that livelihood diversification is better understood within the context of sustainable rural livelihood framework. This framework not only recognizes the importance of the interplay between human capital, physical capital, social network natural and political capital in farming, but also the wider economic, political and technological climate in which they are situated (Scones, 1998). The role of institutional factors is seen as encouraging or hindering the process of livelihood diversifications.

Gordon (2000) observes that two processes are apparent demand- pull, where rural people respond to new opportunities, and distress-push, where the poor are driven to seek non-farm employment for want on–farm opportunities.

## 2.4 Perception of Poverty Reduction due to Livelihood Diversification

Life is characterized with so many problems chief among them is poverty the way and manner rural people addresses this problem is essentially depended on their perception of the problem. To perceive something is to become directly or immediately aware of it. It refers to that active process of interpretation through which we come unto understanding the meaning of image and events. Rural people's perception of poverty is therefore depend on how they experience the phenomenon, this in turn explain how they

address the problems. Researchers generally consider that livelihood diversification is one of the means through which rural poverty can be reduced (Ellis, 1998; Moser, 1998; Bernstein, 1992).

However, the level of engagement in livelihood of diversification and type of livelihood activities engaged in by rural dwellers depends on their own understanding of poverty and the ways to reduce it. Dixon (1994) and Gordon (2000) report that ever in relatively undiversified economics, rural people engage in multiple activities to supplement agricultural production and also as a strategy for sustenance. Perception of poverty varies, so also ways to reduce it (Maccaver, 1991). As a complex phenomenon poverty has no single conceptualization, but among these varied are economic deprivation, social and political exclusion, powerlessness, vulnerability and lack of resources (Chamber, 1983).

## 2.5 The Effect of Livelihood Diversification on Rural Farmers' Livelihood

This appears to be no consensus among scholar with regard to the effect of livelihood diversification. On one hand are those who see diversification as a positive phenomenon and therefore a contributor to rural livelihood's well-being, while on the other hand, are those who see it as a negative phenomenon and therefore a repercussion on rural farmer's well-being on the positive side, Ellis (1998) observe that diversification can be said to have a positive impact on livelihood if it makes them more secured, reduce the adverse effect of seasonality, and help to raise poor rural household out of poverty trap. In other word diversification is effective if it reduce the vulnerability of individual and households to deprivation and disaster.

According to the line of reasoning, the positive effect of diversification include; consumption smoothing, risk reduction, more complete use of available resources

(labour and skill), cash for investment in human capital or physical capital, more opportunity for woman to exercise independent economic decision-making and in some circumstances, improvement in natural environment or reduce pressure on environmental resources. Readar *etal.* (1992) and Ellis (1998) notes that most rural households participation in income generation activities are seasonal, indicating that labour utilization on the farm which create livelihood insecurity due to mismatch between highly uneven farm income flow and regular consumption pattern. Therefore, diversification of income can smoothen out the adverse effects of seasonality on income insecurity of the households. The negative effect of diversification are mostly the converse of the positive ones, and reflect the different circumstances that arises periodically in different locations.

Diversification may have negative effects on rural income distribution, agricultural, productivity, diversion of resources to unproductive networking and adverse gender effects. Deacon and Krishnan (1996) observes that diversification could increase income disparities between the rich and poor in rural areas. This occurs because diversification opportunities of the better off are in more highly paid and secure labour markets than those that open to the poor. For instance, the rich may be able to secure permanent full time jobs for family members in government or business, while the poor are only able to secure for time and casual work at lower wage rates. This in turn reflects the different assets position of rural families with those possessing high level of human capital (education and skills) being in a better position to take advantage of opportunities that arise than those who are not well endowed.

## 2.6 Theoretical Framework

This study is predicated on the theoretical concept of social change and is premised on symbolic interactions, self- perception theory and poverty reduction perspectives.

### 2.6.1 Symbolic Interactionism

Symbolic interactionism is founded in the pioneering of Gorge Herbert Mead (1863-1931) and developed by Herbert Blummer, John Deway and William Thomas. This perspective is based on the view of man as both creator of, and the product of his environment i.e. both determining and determined (Meighen 1986). As expressed by Meighen (1986), the individual becomes on active participant in his social world acting upon within and towards the situations. Through such interaction, social identities, meaning and roles are created, maintained, modified or change individual response to situation on the basis of how they perceive and define them and these definition refers to the meaning individual attach to the ongoing events in which they find themselves. Richard *etal* (1983).The basic principles of symbolic interactionism as summarized by Ritzer (1996) are:

i. Human being, unlike animals are endowed with the capacity for thought

ii. The capacity for social interaction

iii. In social interaction people learn the meaning and the symbols that allow them to exercise their distinctively human capacity for thought

iv. The intertwined pattern of action and interaction make up groups and societies.

The interactionism method involves the strife to understand the meaning of events for people in particular situations with the emphasis being on the participants own interpretations of reality (Ritzer1996) so as to arrived at the adequate understand of

livelihoods diversification and the effects on rural households' livelihood the researcher would rely on the respondent definition and interpretation of the meaning of rural livelihood diversification and how this meaning and interpretation allow choice of action to respond to the situation and also adapt to maintain or sustain their livelihoods. The respondents own interpretation of the situation form the basis of understanding of how rural people modify or change their income and food sources (livelihood diversification).

### 2.6.2 Self perception

Self – perception theory is an account of behaviour change developed by the psychologist DarlyBem in 1967. This theory asserts that we only have that knowledge of our own behaviour and its causation that another person can have, and that we therefore develop our attitude by observing our own behaviour and concluding what attitude must have caused them. In the light of this understanding, self-perception theory can be used to explain farmers' attitude toward poverty condition (Lair. 2007). In this regard, farmers' attitude toward poverty can be said to base on their experience i.e. observing the objective reality of their poverty situation and concluding that lack of diversified livelihood could have been responsible to their poverty condition and therefore, conclude by perceiving livelihood diversification as a way out of poverty. This theory was used as a guide in this study.

### 2.6.3 Poverty reduction perspective

There is no general acceptable conceptualization of poverty; rather, what has been globally recognized and accepted is that poverty is a threat to the survival of mankind. In recognition of this fact, the United Nations declared 1996, as an International year for

the eradication of poverty (Ozigbo, 2001) poverty is a general phenomenon that affects the physical, moral and psychological condition of man. It manifest in different ways and in all facets of human life. Low income, isolation, powerlessness, vulnerability, physical weakness and lack of resources Chamber, (1983 and Dixon, 1990).It's perception varies from society to society that it became latently difficult to conceptualize a globally accepted definition of the syndrome (Macaver, 1999).

Ekong (1988) say that economists tend to view poverty as a distance on a continuity towards Zero purchasing power while its polar opposition affluences is a distance on the same continuum toward zero purchasing power while its polar opposition affluence is a distance on the same continuum towards full purchasing power. Ozigbo (2001) views poverty in terms of the existence of inadequate income to obtain basic goods and services. This involves the inability of the individual to measuring fully subsist and to reproduce against all forces that minimize the quality of life. It also involves a situation where substance depends on ways with which to purchase food, which often is inadequate in quantity and quality. Sen (1983) defines poverty as a deprivation reflected in inadequacy of social and political rights, economic exclusion or collapse of services in rural areas which makes it difficult for rural dwellers to fully exploit their life potentials for personal development and self-actualization. Reduction the incidence of poverty among the population has received improved momentum at national international level (Butler and Mazur, 2004).

The must afflicted are the rural poor who account for 50-70 percent of the poor and are employed in agricultural production (Olatonbasun1975) rural poverty is therefore the inability of the rural people to meet basic human and material needs and deprivation in social and political right, reflected in economic exclusion and the absence or collapse of service in rural areas (Sen 1983).

### 2.6.4 Measurement of Poverty

There are many ways by which poverty can be measured. These include the following:

i. **Absolute and Relative Measurement:** this is based on the mathematical formulation using an index which varies according to the particular poverty measure one intends to compute. Ekong (2003) defines it as a misery linked to experiencing outcomes which are less satisfactory than those of relevant others while not being able to do much about improving one on outcome so that one has to adopt one arouse aspiration to one's inescapable unsatisfactory outcome instead of through innovation.

ii. **Subjective Poverty:** is based on the premise that the options of persons with respect to their own situation should invariably be the determinant in defining poverty. Some of the exponents of the poverty measurement based their methods on income evaluation questions while others based their own questions about necessities that a household should pose. In all the subjective measurement appropriate the issues of family size and a lots of others household characteristics such as age, education and occupation have been found necessary (Job 1998) this view of poverty is adopted in the study.

iii. **Zero Sum Poverty:** Is misery linked to patronage, oppression, exploitation, usurpation and abuse by powerful others. Ekong (2003) observed that rural areas tend to be a compound of all the above type.

## 2.7 Conceptual Model

Within the context of this study emphasis in the conceptual model is placed on socio-economic characteristics of farmers such as age, gender role dependency ratio, household, headship, education, household size, farm size, years of farming.

Institutional factors such as market credit farmers organization and environmental factors such as natural resources base, natural disasters, physical proximity to cities and season of the year which are treated as independent variable that are hypotheses to have influenced on livelihood diversification of the farmers as a dependent variable. This relationship is shown in three solid lines directed at the middle box representing the dependent variable (Livelihood diversification).

The dependent variable livelihood diversification which appears in the middle of this model is seen in terms of rural non-farm activities and off-farm employment in both formal and non-formal sectors. The resultant outcomes of these activities (livelihood diversification) are assumed to have indirect effects on poverty reduction of the farmer. Poverty reduction which is reflected in the model in social dots is seen in terms of increased incomes and food security for the farmers' households. The enclosure represents an integrated model of factors influencing livelihood diversification of farmers in the study area and includes the independent and dependent variable and its assumed effects on rural farmers' income and food security.

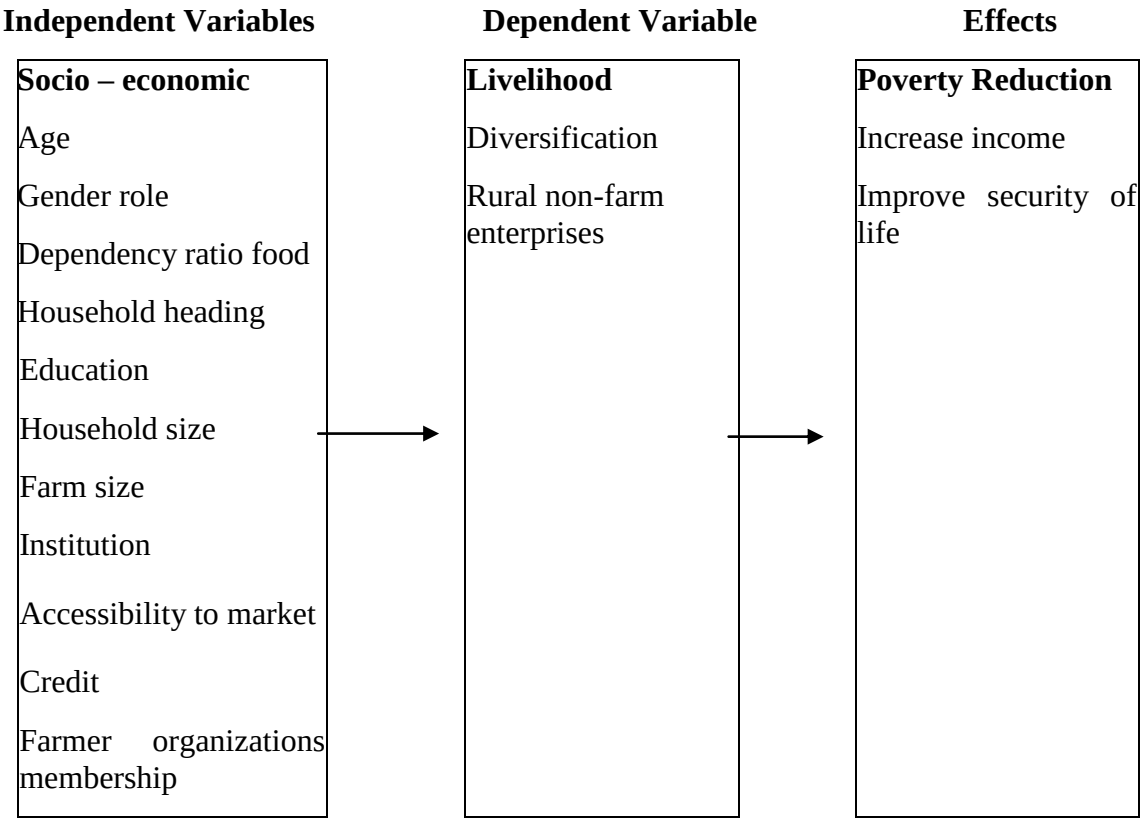



Figure 2.1: A Model of socio – economic and institutional factors influencing livelihood diversification among rural farmers and effects.

# CHAPTER THREE

# METHODOLOGY

## 3.1 The Study Area

Kajuru Local Government Area was created in March 1997 out of Chikun Local Government Area, with headquarter at Kajuru. It is made up of two districts; Kajuru and Kufana. Additional district were carved out in 2001, thus bringing the number to fourteen (16) districts in Kajuru Local Government Area is predominantly rural and it share boundary with Igabi Local Government Area to the North, Chikun Local government Area to the West and with Kauru Local Government Area to the East.

It is bounded on the south east by Zango Kataf Local Government Area and with Kachia Local Government Area to the south. With a population of about 350,000 people according to National Population Census (NPC 2014) projection, the people are predominantly farmers producing crops such as rice, guinea corn, millet, maize, groundnut, pepper, soya bean, also rear livestock such as cattle, goat are also raised. Kajuru Local Government is blessed with mineral resource such as Kaolin, quart, cassiteride and amethysts.

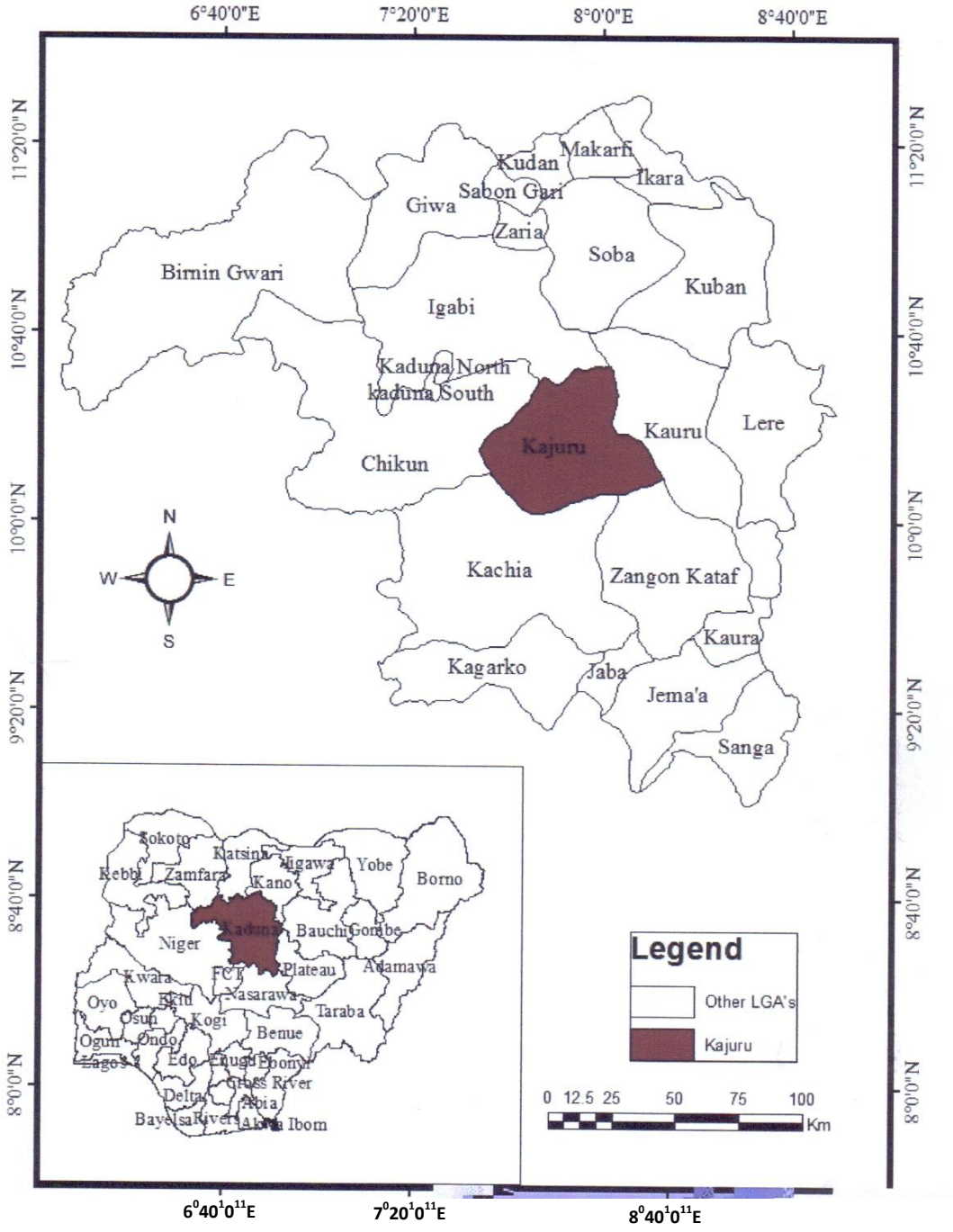
The wet season usually begins in April/ May to October, while the dry season starts from November to March. The Major ethnic group is known as Adara. Others include Hausa, Gbagi, Fulani, Igbo, Yoruba, Tiv among others, the people are very tolerant, friendly and accommodating. Some prominent people in the study area engaged in the following occupations:

i. Na – Allah Manya who has being farming for twenty years now also engaged fully in petty trading/building.

ii. Gideon W. Turaki has been farming for thirty years now also engaged fully into carpentry and mat and basket making.

**ECOLOGY**

Kajuru Local Government Area is located on longitude 9° 59'N and 10° 55'N and 7° 34' E and 8 ° 13'E with an area of 2,464 $km^2$. Kajuru Local Government Area experiences high temperatures all the year round which is a characteristics of the tropics. The mean temperature in the area can be as high as 34°C between the months of Mach and May. The temperature could be as low as 20°C during December to January. This low temperature is intensified by humidity due to the dry harmattan wind.


6°40'0"E
7°20'0"E
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Makarfi
Kudan
Ikara
Sabon Gari
Giwa
Zaria
Soba
Kuban
Birnin Gwari
Igabi
Kaduna North
kaduna South
Kajuru
Kauru
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Kaura
Kagarko
Jaba
Jema'a
Sanga
Sokoto
Katsina
Jigawa
Yobe
Borno
Kebbi
Zamfara
Kano
Kaduna
Bauchi
Gombe
Niger
Plateau
Adamawa
Kwara
FCT
Nasarawa
Oyo
Kwara
Taraba
Osun
Kogi
Benue
Ogun
Ondo
Edo
Enugu
Ebonyi
Lagos
Cross River
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Abia
Bayelsa
Rivers
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Legend
Other LGA's
Kajuru
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Km
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7°20'0"E
8°40'0"E

### 3.2 Sampling Procedure and Sample Size

The Local Government Area is made of two (2) chiefdoms Adara and Kajuru. Each of them is further sub – divided into 14 and 4 districts, respectively, making a total of 16 districts in the study area. The stage involves purposive selection of 4 districts from Adara chiefdom and two from Kajuru chiefdom. Namely, Kajuru, Kufana ,Kasuwan Magani, Rimau, Kallah and Buda. The districts were selected by random sampling techniques. A list of districts identified in the map and of these villages was assigned a number. These numbers were written in separate piece of paper and the paper were folded and dropped in bag. The bag was well shuffled and by random sampling techniques. In each of the sample districts, a list of households was obtained from the district heads or heads of community, total one thousand one hundred and sixty – one households (1,161) and form the sample frame for the study area. These process produce the sample size of 120 respondents.

Table 3.2.1 Kajuru Local Government Area with districts selected for the Study

| **Selected village** | **Sample frame** | **Sample size** |
|---|---|---|
| Kufana | 291 | 30 |
| Kajuru | 165 | 17 |
| Kasuwa Magani | 194 | 20 |
| Rimau | 124 | 13 |
| Kallah | 193 | 20 |
| Buda | 194 | 20 |
| **Total** | **1, 161** | **120** |

These respective household heads constitute the respondents for the study. This gives a total sample size of one hundred and twenty (120) respondents for the study from a sample frame of (1,161).

### 3.3 Data Collection

Both primary and secondary sources of information were used. The primary data were collected through the use of structured questionnaires administered by trained enumerators and supervised by the researcher. The information collected include household characteristics (i.e. general information on socio – economic and institutional factors influencing livelihood diversification characteristics and access to production resources) such as age, sex, level of income, source of farm capital, type of farm imputes such as fertilizer, pesticides, number of livestock type of crops, cooperative organization, farm – tools and equipment and machines for farming operations.

### 3.4 Measurement of Variables

**Livelihood Diversification:** Ellis (1998) defines livelihood diversification as the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standard of living. In this study, livelihood diversification is referred to as all those Non-agricultural based activities such as rural non-farm enterprises and public/private sector employment or any other income generating activities engaged in by rural farmers to supplement earning from agriculture. This variable was measured in terms of non-agricultural activities that a farmer has continually engaged in and on continued bases.

**Poverty Reduction:** The definition of poverty reduction is derived from the subjective measure of poverty definition which sees poverty in terms of the opinion of the

individual in respect to his own condition, as a situation in which the invention, efforts are made by individual or household to attack or address the chronic effects of poverty such as insufficiency income, food insecurity, vulnerability, illiteracy, lack of functioning and capability, social exclusion and lack of resources to meet human and material needs. In this study, poverty reduction was determined in terms of increased income and improved food security as indicators. Income and food security in turn were defined as follows:

**Increased Income:** Refers to the total amount of money the responding earned from non-agricultural activities to sustain livelihood and in addition to agricultural income. This was measured in naira.

**Improved Food Security:** The household's improved food security is a situation when majority of household members of all times, have physical and economic access to nutrition and adequate diet in required quantity (Maxwell, 1995).

### 3.5 Analytical Tools

Descriptive statistics, logistic model, Z-test and Chi –square were used to analyze the data.

**i.** **Descriptive statistics:** Descriptive statistics which comprised of percentage, means and frequency counts, were used to achieve objectives i, ii and iv.

i. What are the levels of livelihood diversification in the study area?

ii. Why do rural people diversify their sources of livelihood?

iii. What are the socio – economic and institutional factors influencing livelihood diversification in the area?

iv. What are the perception of rural farmers on poverty reduction due to livelihood diversification?

**v. Logistic Regression Model:** The logistic regression model was use to achieve objective (iii) of the study. The logistic regression is a statistical technique in which the probability of a categorical variable (dichotomous outcome) is related to a set of independent variables that are hypothesized to influence the outcome.

The logic model is specific as follows

$P(X) = \frac{\exp Z}{1+\exp Z}$,

$$Z = \sum_{j=0}^{k} b_j x_j$$

Where

Y = livelihood diversification (farming only, farming/poultry, farming/mat making, farming/petty trading)

$X_1$ = Age of Farmer (years)

$X_2$ = Gender Role (ratio) – male can performed higher than female e.g. motor mechanics.

$X_3$ = Dependency Ratio (Naira)

$X_4$ = household headship percentage of household head involves in the area of study

$X_5$ = Education (Years)

$X_6$ = Household Size (Number)

$X_7$ = Farm Size (hectare)

$X_8$ = Farming Experiences (years)

$X_9$ = Accessibility to market (distance in kilometer)

$X_{10}$ = credit receive (amount in Naira)

vi. **Z – test statistic:** The Z- test is used to determine whether an observed difference exists between the mean of (two groups or two pair samples) which are larger than 30 in size. The Z-test statistics was used to test part of two hypotheses which posited a negative relationship between livelihood diversification and household's poverty reduction (increase income). The observed difference between the means of the 2 groups was corrected at 0.05% level (tab 1. 96) of significant and the Z – test specific as follows.

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where

Z = calculate Z – value

$\bar{X}_1$=Mean income of diversified farmers

$\bar{X}_2$ = Mean income of undiversified farmers

$S_1^2$ = Standard deviation of income of diversified farmers

$S_2^2$ = Standard deviation of income of undiversified farmers

$n_1$ = Number of diversified farmer

$n_2$ = Number of undiversified farmers

vii. **Spearman Rank Correlation Coefficient:** The coefficient of rank correlation is applied to the problems in which data cannot be measured quantitatively but qualitative assessment is possible such as beauty and honesty. In this case the best individual is given the rank number 1, 2, and so on. Spearman Rank correlation coefficient is specified as follows:

$$r_k = 1 - \frac{6\sum D^2}{N(N^2 - 1)}$$

where$r_k$ = Rank correlation coefficient

$D^2$ = standard deviation

N = Number of variables

**1. Operational Definitions and Measurements of Variables**

### 3.6.1 Independent variables

i. **Age:** The older the farmer get, the less likely he is to depend solely on farming. This is the overwhelming conclusion arrived at by some scientists (Porter, 1989). Mobley 1988 Rhode, 1983 which were based on studies of age turnover relationship. However, it may be assumed that age affect productivity due to decline in speed, agility, strength and coordination or decay over time. In this study, it is assumed that the older the age of a farmer the more likely he is influenced into livelihood diversification. Age was measured by the total number of years a farmer has attained from the date of birth.

ii. **Gender Role:** This has been defined as the expected behavior of an individual who occupy a particular position status (Schaefer, 2000). The behavior of the Male/Female in the household are influenced and sometimes directed by gender consideration (Gordon 2001). Livelihood diversification as an activity is socially constructed and men are expected to undertake or engage in activities that are Masculine specific. Women are expected to perform or engage in activities that are famine specific. In this study, it is expected that men would diversify sources of livelihoods than women because of socio – cultural considerations livelihood diversification would be determined by gender role expectation of the respondents. This was measured in terms of the ratio of men to women role performance of respondents.

iii. **Dependency Ratio**: This is the proportion of individual to the total populations who do not work and depend on others for their livelihood. It was expected that the number of elderly and sick children in the age bracket of between the months of 1-14 years in a household would propel a household head to seek multiple source of livelihood. Therefore, it is assumed that the higher load or number children in age 1 – 14, the head of household would diversify sources of livelihood. This was measured in terms of percentage of dependents in a household.

iv. **House Headship:** the position of a breadwinner comes with challenges which an individual must respond by looking for new ways to meet up with the demand of that position (Gordon 2000). Within the scope of this study, it is expected that headship influences farmers into livelihoods diversification activities so as to meet up with the challenges being the provider of the household need (Gordon 2000).This was measured in terms of the percentage of household heads in livelihood diversification.

v. **Education:** Studies have shown that education contributes to the growth of nonfarm economy of villages and small rural town (Gordon 2000, Kinsella et al 2001). It is linked with higher productivity in trading construction services and Manufacturing activities (Gordon 2000). In this study education is referred to as the formal and informal training a farmer receives. It is assumed that the higher the educational level of the respondents the more the livelihood of diversification. This was measured in number of years spent in formal and informal training.

vi. **House Hold Size:** A farmer's major task is to provide enough food security and shelter for his family (Maigida, 1998) Atala 1984 reports that household size is

constituted by the summation of the number of wives, children, relative and dependents living together in the household at the time of any investigation. Therefore, farmer with large household are likely to diversify sources of livelihood to maintain security and stability in the household. It was assumed in this study that household size positively related to livelihood diversification. Hence for this study household size referred to as the total number of people residing within a household (which include wives, children and other relations) who live and eat from the same pot. This was measured in terms of the number of people in a household at the time of investigation.

### 3.6.2 Institutional Variables

i. **Accessibility to Market:** Campbell (2007) observed that the factors that encourage or discourage livelihood diversification are complex. However, markets and demand contribute significantly to households' participation in livelihood diversification. Rural people's linkages with markets is assumed to encourage livelihood diversification by providing raw materials and outlet for farmers produce. Market is defined in this study as the place where rural farmers buy or sell their goods, it is expected that market accessibility is positively related to livelihood diversify. This was measured in terms of the physical distance between rural households and the market that is nearest to them.

ii. **Credit:** Money obtained by rural farmers from financial organizations such as bank, and other non – governmental organization (NGOs) in form of loan or input for the purpose of investing in livelihood diversification activities (Islam 1977). The availability and accessibility of this facility to rural farmers is expected to be positively related to livelihood diversification. Credit was

measured as the amount of cash (Naira value received from formal and informal, non-formal institutions (such as farm inputs, advice and training).

iii. **Membership Organizations:** Cooperative societies are trading organizations where various entrepreneurs or memberships of the cooperatives pool their resources together with a view to making profit through marketing of agricultural produce.

# CHAPTER FOUR

# RESULTS AND DISCUSSION

## 4.1 Levels of Livelihood Diversification of Household Heads

This section examines the different levels of engagement in livelihood diversified activities of the respondents in the study area. The major concern was to analyse the various livelihood diversified activities engaged in by the respondents and at what level of operation that farmer were engaged in besides farming at the time of data collection.

## 4.2 Level of Diversification in the Study Area

The farmer diversified into livelihood sources such as marketing, petty trading, tailoring, commercial motorcycle riding, building, sales of sugarcane, mechanics and repairs of electronics, and blacksmithing among others. Furthermore, finding revealed that among the various activities engaged in by the respondents 11.7% of the respondents were engaged in marketing of goods as a source of livelihood besides farming in the study area, 4.2% of the respondents were involved in commercial motorcycle riding and 1 person representing 0.5% was engage in sugar cane production and sales. This is an indication that (8.3%) of the respondents were sellers of orange as a livelihood source beside agricultural production. This phenomenon can be explained on the basis that farmers in the study area usually seize the opportunity presented by the seasonal change to developed into more “lucrative “economic ventures such as marketing because of its relatively low labour involvement and high profit margin. Some of the more enterprising farmers disposed almost all their farm produce and invest their money in adding value to commodities (marketing) especially agricultural goods.

The low (1.49%) engagement in mechanics and electronics repairs as a livelihood activity could be attributed to the technical skills required to undertake such activities which is often times lacking in rural area. The result further reveals that some of the farmers were engaged in more than one livelihood diversified activities. Table 1 reveals that 8.95 percent of the respondents were engaged in commercial motorcycle riding and middlemen as a livelihood source besides farming, while 7.46 % were engaged in carpentry, building and petty trading and 5.2% were also engaged in blacksmithing, marketing and building as livelihood sources. This is an indication that rural economy is a relatively diversified economy. It also signifies that a sizeable number of rural households were highly diversified.

### 4.2.1 Theoretical Framework

This study is predicated on the theoretical concept of social change and is premised on symbolic interactions, self- perception theory and poverty reduction perspectives.

### 4.3 Symbolic Interactionism

Through such interaction, social identities, meaning and roles are created, maintained, modified or change individual response to situation on the basis of how they perceive and define them and these definition refers to the meaning individual attach to the ongoing events in which they find themselves. Richard etal (1983).The basic principles of symbolic interactionism as summarized by Ritzer (1996) are:

iv. Human being, unlike animals are endowed with the capacity for thought

v. The capacity for social interaction

vi. In social interaction people learn the meaning and the symbols that allow them to exercise their distinctively human capacity for thought

vii. The intertwined pattern of action and interaction make up groups and societies.

The interactionism method involves the strife to understand the meaning of events for people in particular situations with the emphasis being on the participants own interpretations of reality (Ritzer 1996) so as to arrived at the adequate understand of livelihoods diversification and the effects on rural households livelihoods the researcher would rely on the respondent definition and interpretation of the meaning of rural livelihood diversification and how this meaning and interpretation allow choice of action to respond to the situation and also adapt to maintain or sustain their livelihoods.

Table 4.1: Distribution of Respondents by Livelihood Diversification Activities.

| **Activities** | **Frequency** | **Percentage** |
|---|---|---|
| Marketing | 14 | 11.7 |
| Petty trading | 10 | 8.3 |
| Middlemen | 11 | 9.2 |
| Commercial motorcycle riding/middlemen | 12 | 8.2 |
| Carpentry/ building/ petty trading | 10 | 7.5 |
| Building | 8 | 5.7 |
| Building/mat and basket making | 6 | 5.0 |
| Blacksmithing/ marketing / building | 8 | 6.7 |
| Mechanics/civil service | 7 | 5.8 |
| Commercial motorcycle riding | 6 | 4.5 |
| Civil service | 5 | 4.2 |
| Weaving | 6 | 4.5 |
| Driving/ politics | 6 | 4.5 |
| Tailoring | 3 | 2.5 |
| Blacksmithing | 3 | 2.2 |
| Carpentry | 2 | 1.5 |
| Mechanics/ electronics repairs | 2 | 1.5 |
| Sale of sugar cane | 1 | 0.5 |
| **Total** | **120** | **100.0** |

### 4.3.1 Respondents on the Level of Livelihood Diversification

On the bases of this four levels were identified, farming only, farming with one other activity, faming with two other activities, farming with three or more other activities representing non-low moderate and high respectively. The result of the study as shown in Table 4.2. reveals 38% of the respondents were engaged in not more than 1 livelihood diversified activities besides farming, while about 21% of the respondents were engaged in 2 livelihood diversified activities and 13.3% of the respondents were engaged in 3 and above livelihood diversified activities besides farming. The respondents who were not engaged in any livelihood diversification activity were equally grouped under non diversification and represented 28%. This analysis indicates that out of the 120 respondents, about 62% were engaged in one form of livelihood diversification or the other besides farming.

This finding supports the general claim among researchers (Gordon, 2000; Ellis, 1989; Hussein and Nelson, 1989; Kinsella, 2000) that even in relatively undiversified economics rural dwellers derive income from multiple source. Most researchers who investigated livelihood diversification have focused on issues of typification and categorization (Bateman and Ray, 1994) on the basis of economic analysis (off farm and on farm, other gainful enterprises and farm enterprises). The finding of this study has shown that rural people's engagement in livelihood diversification not only differs in types of activities but also in degree (levels) of involvement.

Table 4.2: Distribution of Respondents according to their Level of Livelihood Diversification Activities

| Activities | Frequency | Percentages | Levels |
|---|---|---|---|
| Farming only | 34 | 28.33 | None |
| Farming with one other activity | 45 | 37.50 | Low |
| Farming with two other activities | 25 | 20.83 | Moderate |
| Farming with three or more other activities | 16 | 13.33 | High |
| **Total** | **120** | **100.00** | |

### 4.4 Reasons for Livelihood Diversification

The second objective of this study was to identify the reasons why rural farmers engage in livelihood diversification activities besides farming. To fulfill this objective data were obtained on four commonly identified reasons which are to: have more income, improve food security, and avoid risk associated with farming and meet family necessities. The respondents were asked to rank these reasons on the basis of their importance. The results obtained as shown in figure 4.1 below reveals that 40.2% of the respondents reported income as their first priority for engaging in livelihood diversification, 20.5% of them considered food security as their first reason, while 21.2% reported risk aversion as first reason for engaging in livelihood diversification activities, and 17.5% reported family necessities as first reason. The finding of this study shows that the main reason why rural people engaged in livelihood diversified activities was to raise income. This is because among the reasons for engaging in livelihood diversification, income had the highest (40.2%) as the first, against the other

reasons for engaging in livelihood diversification. This finding is supported in literature as scholar (Ellis, 1998; Gordon, 2000, Dercon and Krishnan, 1996) were of the view that farmers diversify sources of livelihood to increase their income portfolio.

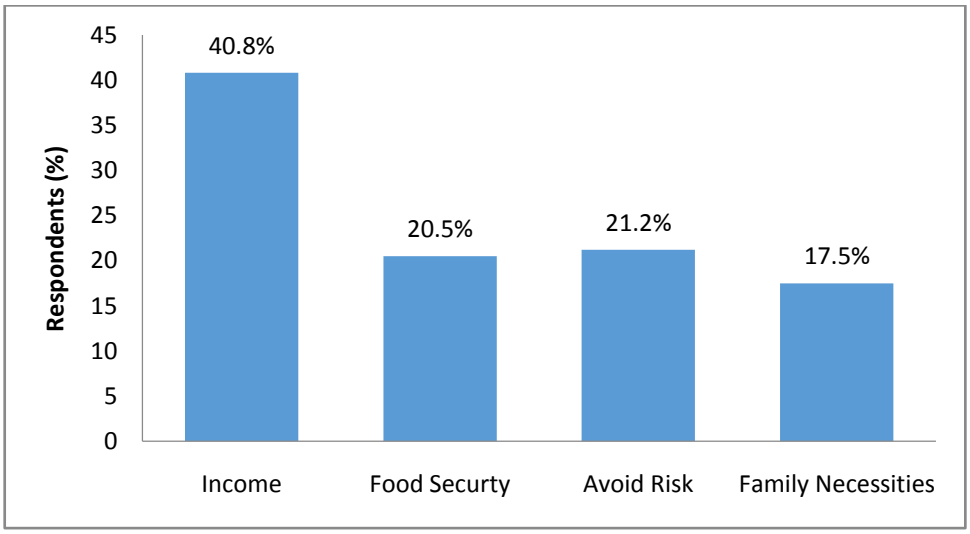



Figure 4.1: Barchart showing for involvement in livelihood diversification

### 4.5 Respondents on Willingness to Diversify Livelihood

Table 4.3 indicates that, the farmers representing 58.3% were willing to sustain livelihood diversification activities even when farm inputs were supplied to them, 25 respondents accounting for 20.8% were not willing to engage in livelihood diversification. If from input were adequately supplied to them, while 25 respondents representing 20.8% were undecided. This indecision could be as a result of rural households' poverty condition, because many of the respondents who were not engaged in any livelihood diversified activities besides farming identified lack of fund as their constraints for not participating in livelihood diversification activities. Elkeland (1999) reports that livelihood diversification was analyzed as an economic adaptation strategy adopted by rural households to help combat increasing hash conditions and as such, was seen as an expression of poverty and insufficiency in agriculture. However, the finding

of the study in objective five has indicated that the majority of the respondents were willing to continue and to sustain their effect on poverty reduction of the livelihood diversification. This finding is in agreement with that of Kinsella *et al*., (2000) which states that livelihood diversification is a well-established and enduring phenomenon among rural dwellers.

Table 4.3: Distribution of Respondents on Willingness to Diversify Livelihood

| **Willingness** | **Frequency** | **Percentage** |
|---|---|---|
| Yes | 70 | 58.3 |
| No | 25 | 20.8 |
| Undecided | 25 | 20.8 |
| **Total** | **120** | **100.0** |

### 4.6 Socio-Economic Factors Influencing Livelihood Diversification

From the findings, it was hypothesized that there is no significant relationship between socio-economic factors and livelihood diversification of the respondents. The socio-economic variables include: age, gender role, dependency ratio, household headship, education, household size farm size, and years of farming. The specific hypotheses, however, posed a negative influence of age, gender role, dependency ratio, household headship, education, household size, farm size and years of farming and households' livelihood diversification. The hypothesis was tested using logistic regression model.

Based on the model classification, results revealed the fitness of the model. 100% of farmers were correctly classified by the model. The two livelihood ratio test (-21) show that the estimated model including a constant and the set of explanatory variables fit the data better compared with the model containing the constant only. This implies a

better relationship between odds ratio (or log of odds), probability of factors influencing livelihood diversification and the explanatory variable included in the model collectively contributes significantly to the explanation of farmers' influence in livelihood diversification. Although on individual basis, some coefficients were not significant. The regression model and overall percent of correct prediction also suggested that the estimated model has an excellent explanatory power.

## 4.7 Socioeconomic Factors Influencing Livelihood

Logit regression model analysis for the socio-economic variable revealed that, forward stepwise selection approach was adopted and dependency ratio ($X_3$), household headship ($X_4$) and farm size ($X_7$) were not significant at 5% level. The logistic regression coefficient for age ($X_1$) indicates that holding other factors constant, the log odds of farmers being influence into livelihood diversification increased by 8.7%. This means that the entire model explain that age contributes 8.7% to the overall prediction of farmers influence into livelihood diversification. This is an indication that as a farmer advances in age, the responsibility of the household increases and this may necessitate the search for nonfarm sources of livelihood to supplement agricultural source.

Similarly, the gender role had a strong influence on the farmer's probability of engaging in livelihood diversification. If the gender role ($X_2$) is raised by a unit value while holding other variables constant, the probability of farmers engaging in livelihood diversification activities that are gender specific will be also increased. This is supported by the fact that most of the farmers interviewed believed that their gender role enable them partake in livelihood diversification more than when it was the opposite. For education ($X_5$), a unit change in the level of farmers' education would raise the probability of farmers being influenced into livelihood diversification by 6.75%. This is

based on the fact that education creates awareness about opportunities existing elsewhere and the knowledge and skills acquired support individual's quest for better standard (job) outside the farm enterprise. This finding suggests that the higher the level of education of farmers, the more likely they are to engage in livelihood diversification. Similarly, the coefficient for household size ($X_6$) indicates that with other variables held constant, a unit change in the size of household would raise the livelihood of a farmer involvement in livelihood diversification activities by 4.96%.

This is an indication that household size has an influence on farmer chances of engaging in livelihood diversification, because a large household size means more responsibilities to the household head, while a small household size may mean fewer responsibilities and thereby makes the household head depend on land cultivation as the only source of livelihood.

For years of farming experience, it was hypothesized that it has no influence on farmer's livelihood diversification. This result indicates that a unit change in farmer's years of farming experience ($X_8$) would raise the livelihood of farmers engaging in livelihood diversification by 0.516%. This means that the more the years a farmer is engaged in land cultivation, the more likely he realizes the inadequacy and influence in agricultural production, and the more he is influenced into seeking other sources of livelihood. Conversely, an inexperienced farmer might not have come to this realization and would not be influenced into seeking other sources of livelihood besides farming.

Table 4.4: Logit Model Estimate of Socio-Economic Factors Influencing Livelihood Diversification

| **Variables** | **B** | **SE** | **T** | **P** | **Remark** |
|---|---|---|---|---|---|
| Age | 9.76 | 2.3 | 3.86 | 0.003 | Sig |
| Gender role | 3.54 | 1.53 | 2.31 | 0.025 | Sig |
| Dependency ratio | 2.49 | 1.52 | 1.64 | 0.075 | NS |
| Headship | 3.45 | 2.56 | 1.35 | 0.204 | NS |
| Education | 6.45 | 2.56 | 1.35 | 0.204 | NS |
| Household size | 4.96 | 1.52 | 3.26 | 0.011q | Sig |
| Farm size | 2.49 | 2.06 | 1.21 | 0.101 | NS |
| Years of farming | 0.52 | 0.11 | 4.91 | 0.001 | Sig |
| Constant | | 14.59 | | | |
| Overall number Of farmers predicted | 100% | | | | |
| Model regression | 60.03 | | | | |
| -2 log livelihood | 0.01 | | | | |
| Cox and snell K-square | 0.85 | | | | |
| Nagelkerke Square | 1.000 | | | | |

## 4.8 Institutional Factors Influencing Livelihood Diversification

There is no significant relationship between livelihood diversification and rural household poverty reduction. The amount of credit received by farmers has a positive influence on their livelihood diversification. The results show that a unit change in the amount of money obtained by farmers ($X_{10}$) would result in an increase offarmers' engagement in livelihood diversification by 0.657%. This means that amount of credit contribute 0.64% to overall prediction of farmers' engagement in livelihood diversification activities. For farmers' organization, a unit change in the number of

membership to organizations ($X_{11}$) will raise the probability of farmers' engagement in livelihood diversification by 0.732%.

This results reveal that membership of farmers organization contribute 0.842% to the overall prediction of the model. The implication of the findings suggests that belonging to farmers organization would positively influence farmers into livelihood diversification activities besides farming, because the experience of working and sharing ideas and common problems in groups would educate the farmers and also enable him to learn about other opportunities which may exists outside his immediate engagement and environmental.

## 4.9 Farmers Perception of Poverty Reduction due to Livelihood Diversification

This section examines the perception of respondents with respect to poverty reduction due to livelihood diversification.

### 4.9.1 Respondents Self Perception of Poverty

The view of respondents as regard the conceptualization of poverty condition, these multiple perception or conceptualization of poverty are generally supported in literatures, as researchers are of the view that there is no absolute definition or conception of the phenomena (Macavar, 1999; Ozigbo, 2001; Ekong 2003). Poverty condition was equally described by the respondents using the above indicators. One of the respondents, however, summed it up when he remarked in Hausa (local dialect), that poverty means "Babushi" meaning lacking or lack that is, a poor person is one who is always in need. This need could be interpreted to mean financial needs, powerlessness, vulnerability, physical weakness, social exclusion and lack of resources among others.

### 4.10 Respondents Perception of Poverty

Table 4.5 revealed that 30% of the respondents perceived poverty in terms of lack of income (money). While 28.3% reported that political powerlessness means poverty, 22.5% of the respondents' perceived poverty in terms of social exclusion and 12.5% regarded poverty in term of vulnerability. Other perceptions of poverty which were not specified accounted for 7.5%. This result is significant because traditionally the long monarchical rule in this part of Nigeria has distort the literal meaning of poverty, because the term" Talaka, in local dialect (Hausa) has, political, economic and social implications. It is strictly supposed to mean "subjects" i.e. subordinates to leaders. However it has been used to refer to poverty in its complex nature. This should not sound obscure because this finding concurs the conclusions arrived by Sen (1983), Chamber (1992), Dixon (1994) and Macaver (1999) that the very meaning of poverty is multifaceted and multidimensional.

Table 4.5: Distribution of Respondents According to Perception of Poverty

| **Perception of Poverty** | **Frequency** | **Percentage** |
|---|---|---|
| Lack of income | 35 | 29.20 |
| Political Powerlessness | 34 | 28.33 |
| Social exclusion | 27 | 22.50 |
| Vulnerability | 15 | 12.50 |
| Others (unspecified ) | 9 | 7.50 |
| **Total** | **120** | **100%** |

### 4.10.1 Respondents perception of poverty reduction due to livelihood diversification

Poverty is a concept that has receives multifaceted meaning and interpretations. One best way to understand it is to know how those who experience it perceived the phenomena. In this study the respondent's perception of poverty varied reflecting their unique experiences. To perceive poverty reduction due to livelihood diversification would mean accepting an individual's own understanding and assessment of the phenomena. In the study poverty reduction due to livelihood diversification reflected the varied experience and understanding of what poverty mean and how it is reduced.

## 4.11 Respondents' Perception of Poverty Reduction due to Livelihood Diversification

The finding indicated that 16.7% of the respondents perceived poverty reduction due to livelihood diversification in terms increase in their income. This is realistic on the ground that when farmers' income is increased it enables them to conceive their agricultural produce while equally saving that from the vulnerability of food insecurity, and enabling them meet other household's necessities.

Furthermore, the result shows that 10.0% of the respondent perceived poverty reduction due to livelihood diversification in terms of their ability to pay children school fees without resource to agricultural produce. This is highly important because deflating agricultural sources of income and good means exposing the poor rural producer to more poverty. Similarly, also it indicates that 10% of the respondents reports that they perceived poverty reduction due to livelihood diversification in the sense that it secure them from exploitation of their rich and powerful, thereby allowing them to be self-dependent and economically free.

They perceived areas of poverty reduction due to livelihood diversification as reported by the respondents were in terms of meeting daily family needs which accounted for about 8.30%, access to health care amounting to about 8.30%, re-investment in agricultural production by providing farm inputs 6.7%, improvement in housing condition 6.7%, ability to buy more land and employ more hands in agricultural production 8.80% respectively, and in addition 8.8% reported that livelihood diversification encounters sociability by enhancing social network and friendship beyond the village boundary there by increasing their aspirations chances and opportunities outside the village enclave.

The finding of this study shows that self-perceived poverty and poverty reduction due to livelihood diversification is individually conceived and determined. As it is often mentioned in everyday adage, "he who wears the shoe knows where it pinches most".

Table 4.6: Distribution of Respondent According to Perception of Poverty Reduction Due to Livelihood Diversification

| **Farmer's perception of poverty reduction** | **Frequency** | **Percentage** |
|---|---|---|
| Provides needed income | 20 | 16.7 |
| Self-dependency and freedom | 11 | 10.8 |
| Meeting daily family needs | 10 | 8.3 |
| Pay school fees | 12 | 10.0 |
| Improve housing condition | 8 | 6.7 |
| Ability to employ more hands on the farm | 10 | 8.8 |
| Enabling sociability (social network) | 21 | 17.5 |
| Re-investment in farming | 8 | 6.7 |
| Access to health care | 10 | 8.3 |
| Ability to buy purchase more farms | 8 | 6.7 |
| **Total** | **120** | **100.0** |

## 4.12 Perceived Way out of Poverty Reduction due to Livelihood Diversification

The results show that 44.2% of the respondents in objective two believed that combining farming with livelihood diversification was the best way out of poverty, 34.2% were of the view that poverty could be reduced through agricultural production alone and 2.5% reported that livelihood diversification was the only best way of reducing poverty, while 19.2% were undecided. This result has confirmed Ellis (1998) and Gordon (2000) claim that combing farming with other income generating activities was the best way to reduce rural poverty and empower rural people.

Table 4.7: Distribution of Respondents According to Perceived way out of Poverty

| **Perceived way out of poverty** | **Frequency** | **Percentage** |
|---|---|---|
| Farming and livelihood diversification | 53 | 44.20 |
| Farming only | 41 | 34.20 |
| Livelihood diversification only | 3 | 2.50 |
| Undecided | 23 | 19.20 |
| **Total** | **120** | **100.0** |

## 4.13 Respondents by Significance of Livelihood Diversification

The result in Table 4.8 indicate that about 71.7% of the respondents assessed livelihood diversification as very significant in reducing rural poverty, while 20.0% sees it as moderately significant and 0.83% as insignificant. About 7.50% of the respondents were undecided, this result support the appropriate assumption of this study that farming as major source of livelihood requires to be supplemented with other non-farm activities (livelihood diversification) to make it sustainable and adequate for rural farmers to

address their problems, thereby containing the vulgarize of environmental and institution barriers to resources, Market (price) failure and national international competitions.

Table 4.8: Distribution of Respondents by Significance of Livelihood Diversification

| **Significance** | **Frequency** | **Percentage** |
|---|---|---|
| Very significant | 86 | 71.70 |
| Moderately significant | 24 | 20.00 |
| Insignificant | 1 | 0.83 |
| Undecided | 9 | 7.50 |
| **Total** | **120** | **100** |

### 4.14 Respondents by Willingness to Continue Diversifying Sources of Livelihood

This results also objective two which reveals that 66.7% of the respondents indicated that they would continue to diversify their sources of livelihood, while 6.7% indicated their unwillingness to continue with livelihood diversification activities. This could be as a result of low patronage of their goods and services owning to poverty situation of the people in the study area, and 26.7% were undecided. This result reveals that majority 66.7% of the respondents in the study are were willing to carry on with their livelihood diversification activities as a way of improving living condition and reducing rural poverty.

Table 4.9: Distribution of Respondents by Willingness to continue diversifying Source of Livelihood

| **Continue Livelihood Diversification** | **Frequency** | **Percentage (%)** |
|---|---|---|
| Yes | 80 | 66.7 |
| No | 8 | 6.7 |
| Undecided | 32 | 26.7 |
| **Total** | **120** | **100.0** |

### 4.15 Z-test analysis for Relationship between Livelihood Diversification and rural household poverty reduction

The Chi-square ($x^2$) Analysis of Relationship between Livelihood Diversification and Rural Household's Poverty Reduction. The hypothesis of this study states that there is no relationship between livelihood diversification and rural household poverty reduction (increase income).

Result shows the analysis carried out using Z-test statistics (2 tailed at 5% level = 1.96) to determine whether there was significant difference in the mean income of livelihood diversified and undiversified farmers.

The analysis shows that the calculated Z-value, 8.44, is higher than the critical z-value, 1.96. This results show that the null hypothesis which states that "there is no significant relationship between livelihood diversification and rural households' poverty reduction (increase income)" is rejected and we conclude that there is significant relationship between livelihood diversification and rural household's poverty reduction. This is because the mean income of the livelihood diversified farmers was found to be significantly different from that of the undiversified farmers at 5% level of significance.

This implies that livelihood diversification is significantly related to rural households' poverty reduction and therefore a positive undertaken to rescue farmers from the perennial shortage of income which is mainly the case of poverty in rural areas of low income countries. This results also confirm the finding of objective 3 which reveals that socio – economic factors influencing livelihood diversification in the area.

Theoretically, this explains why rural people change income, sources (livelihood diversification) base on the perception and meaning they attach to the poverty situation in which they found themselves. This finding equally corroborates those of Ellis (2000), Gordon (2000), and Sahn (1998) which shows that diversifying source of livelihood would contribute to poverty reduction in rural areas as this increases the needed income of rural households.

To determine whether there is exist significant difference among the livelihood diversified and undiversified farmers, it was hypothesized that livelihood diversification has no relationship with rural households poverty reduction (food security) Table 4.11 show the analysis of households coping strategies and cumulative food security index for both livelihood diversified and undiversified farmers.

Table 4.10: Z-test analysis for relationship between livelihood diversification and rural household income

| **Classified** | **No** | **Mean** | **St. d** | **Std. error** | **Z** | **Df** | **Sig (2)** |
|---|---|---|---|---|---|---|---|
| Diversified | 86 | $384^2$ | 7968 | .0860 | 8.44 | +18 | 0.00 |
| Undiversified | 34 | 9718 | 7833 | .1343 | | | |

### 4.16 Household Heads Coping Strategies and Cumulated Food Security Index

As regard the result on cumulative food security index revealed that $X^2$ value (13.05) of undiversified farmers there is a significant different from the $X^2$ value (87.15) of diversified group at 0.05% level of significant. This means that we reject the null hypothesis which states that, there is no relationship between livelihood diversification and rural household's poverty reduction (food security). This is an indication that livelihood diversified farmers adopt less severe coping strategies to cope with food insecurity than the undiversified farmers.

The result also shows that when comparing farmers on the basis of livelihood diversification in respect to food security, diversified farmers are relatively food secured than the undiversified farmers. The relationship between livelihood diversification and rural household's food security shows that there is a strong positive association between livelihood diversification and rural household's food security. This is because the Phi (Ɵ) rho which is a measure of association reveals that farmers in livelihood diversification (Phi (Ɵ) rho = 0.50). This can be concluded that there is a strong relationship between livelihood diversification and household's food security.

The finding suggests that livelihood diversification is an antidote to rural households' quest for poverty reduction, as it keeps them away from the vulnerability of food insecurity. This supports the fact that poor rural producers over dependency on agricultural production would mean depleting the only of food and income source, thereby exposing them to more risk of income failure and food insufficiency. Therefore increasing food and income sources through livelihood diversification is a positive undertaken to run away from vicious circle of poverty, unemployment and inequality bedevilling poor rural producers and their families.

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter present the summary of the major findings, draws conclusion and recommendations on factors influencing rural people to seek other sources of livelihood besides agricultural production in Kajuru Local Government Area of Kaduna State.

## 5.1 Summary

The study examined the factors influencing livelihood diversification among rural Farmers in Kajuru Local Government Area of Kaduna State. It examined the nature and socio economic characteristics of the rural famers, the sources of livelihood diversification of the famers, determined the socio-economic factors that influenced farmers' decision for livelihood diversification, the perception of poverty due to livelihood diversification, and also the effect of livelihood diversification poverty reduction among rural farmers. Relevant literature materials were reviewed and the Symbolic Interaction Theory was adopted for the study. The basic symbolic theory interactionism as summarized by Ritzer (1996) opined that human being, unlike animals are endowed with the capacity for thought, social interaction which allows them to exercise their distinctively human capacity for thought and to intertwined pattern of action that makes up a groups and society.

Quantitative methods were used to collect data from the field using questionnaires. The analytical tools employed include descriptive statistics logistic regression model, Z-test and chi-square. One hundred and twenty respondents were successfully studied and the result of the findings indicated that a significant majority of62% were engaged in one form of livelihood diversified activities or the other. This is an indication that majority

of the respondents had livelihood diversified activities besides farming. Similarly, among the reasons given for engaging in livelihood diversification activities, income had the highest ranking of 39% as the first priority for farmer's engagement in livelihood diversification. Result of logistic regression analysis shows that age, education, household size, farm size, credit, membership to farmers organization, natural resources, natural disaster, and season of the year were found to contribute to farmer's engagement in livelihood diversification. This is an indication that these parameters had an influence on livelihood diversification activities of farmers in the area.

The result of farmer's perception of poverty and poverty reduction due to livelihood diversification shows that 71% reported that they were indeed in poverty or were poor, 44%agreed that combining farming with livelihood diversification was the best way out of poverty, 72% poverty and 67% were willing to continue with their livelihood diversification activities. Similarly, the z-test result indicates that there was significant difference in the mean income of diversified and undiversified farmers. Furthermore, the analysis of coping strategies of household heads showed that the most vulnerable to food insecurity are the undiversified farmers.

## 5.2 Conclusion

It was concluded that rural farmers in the area were engaged in livelihood diversification in varying levels. These livelihood diversified activities were influenced by several factors such as age, gender role, education, household size, credit, farmers organization, natural resources, natural disaster, and season of the year which were found to contribute significantly to livelihood diversification activities in the area.

Farmers engaged in livelihood diversification mainly for higher income and to avoid the vulnerability of remaining in poverty. The study also revealed that farmers' perception of poverty and poverty reduction varied reflecting individual experiences, and the effects of livelihood diversification activities as a result of overwhelming need to survive and maintain livelihood.

Therefore, the quest for improved standard of living which has been sought after by rural dwellers and their sympathizers would be met with higher successes when rural people realize the potentiality and effectiveness of livelihood diversification. It is therefore, the general conclusion of this study that livelihood diversification has positive effect and is an antidote to the chronic menace of poverty. This is because it enables rural people increased their income portfolio and insures households from insufficiency of food, thereby improving their food security status, while equally lessening their vulnerability to hunger, diseases and sudden death.

## 5.3 Recommendations

Base on the finding of this study the following recommendations were made:

i. Although farming remains the main livelihood source of majority of farmers and most (62%) rural households perception that they were living in poverty condition or poor. It is therefore, recommended that rural farmers should engage into non-agricultural enterprises as an alternative strategy to curb the incidence of poverty among the population.

ii. Policy makers should emphasize in their developmental programmes the need to encourage the development of rural cottage industries for rural services and urban patronage. This is not only seen as a booster to rural economy but also as an attraction to outsiders.

iii. Rural development is about lineages between different economic sectors, household regaining control over their farm resources, and concrete rural development would turn out to be successful. If it is able to build bridges between different activities and enable mutual reinforcement. Livelihood diversification embodies several aspects of this and its experience could inform us of new potentials for rural developmental especially in Nigeria were majority of rural dwellers are poor.

## 5.4 Suggestion for Further Study

i. This study was carried out in only one Local Government Area (Kajuru) out of twenty-three (23) Local Government Areas in Kaduna state; therefore, it is suggested that this research work should be replicated to other local government Areas of the State to ascertain farmers' involvement in livelihood diversification activities.

ii. Cumulative food security scores were used to measure food security in this study, it is suggested here that other measure of food security such as dietary and nutritional measures should be used in conjunction with coping strategies in further studies.

1. The study concentrated only on non-agricultural sources of livelihood, it is hereby recommended that further studies should in-corporate agricultural sources of livelihood so as to harmonized effectiveness of the two in the overall scheme of livelihood diversification and poverty reduction.

2. From the study, some of the variables investigated did not relate with the dependent variable as hypothesized. It is hereby, recommended that these and more variables be included in the model in future studies.

## 5.5 Contribution to Knowledge

i. The study was able to find out that 55% of the respondents diversified their livelihood.

ii. Many respondents diversified their livelihood to enable them cope with constraints of the global changes.

iii. The study established that 35% of the respondents say that they find it difficult in getting finance to enable them to diversify their livelihood.

iv. Livelihood diversification is of economic importance to the respondents as when some natural disasters affect the inputs in one area, they will be able to cope with life situation in another area.

v. Livelihood diversification has help immensely in many families as the households do not need to depend on hoodls on one area of occupation.

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## APPENDIX I: RESEARCH QUESTIONNAIRE

This questionnaire is for research purpose only, kindly tick of fill in blank spaces as appropriate

VI. Questionnaire No_____ date

Background information

i. Name of farmer _____

ii. Village _____

iii. District _____

iv. Marital status Married [ ] Single [ ] Divorced [ ]

VII level of livelihood diversification of farmers

v. What is your major occupation? _____

vi. Apart from your major occupation, what other activities are your engaged in?

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. Mention in order of priority the other activity engaged in

i. _____

ii. _____

iii. _____

iv. _____

v. _____

c. rural house hold reasons for livelihood diversification

vi. Why are you engaged in livelihood diversification

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. Which among the above stated reasons is the most important?

_____

vii. How would you rank the other reasons for livelihood diversification?

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. Given enough farm inputs would you have diversified into other (non Farm) activities?

i. [ ] ii. [ ]

vii. If yes would you have given up farming as a major source of livelihood?

i. Yes [ ] ii. No[ ]

viii. How can you improve on your livelihood diversification activities

_____

_____

D. factors influencing livelihood diversification among rural farmers

ix. Age of farmer _____

x. Sex of farmer i. male [ ] ii. Female[ ]

xi. What is the composition of your household in respect to:

i. Male _____ ii. Female _____

ii. Among the male members of your household, how many are engaged in livelihood diversification? _____

iii. Are female members also engaged in livelihood diversification?

i. Yes [ ] ii. No [ ]

iv. If yes indicate their number _____

v. What is your highest educational attainment?

i. primary [ ] ii. Secondary [ ] iii. Tertiary [ ] iv. Other [ ]

vi. Have you had any special training or learn a trade?

i. yes [ ] ii. No[ ]

vii. If yes specify the type of training or trade _____

viii. Have this training given you any advantage over others?

i. Yes [ ] ii. No[ ]

ix. If yes what are the advantages?

_____

_____

_____

_____

x. What are the benefits that you drive from these advantages?

_____

_____

_____

_____

xi. What type of leadership head do you have in your household?

i. female headed [ ] ii. Male headed

xii. Does this leadership enable you to engage in livelihood diversification activities?

i. Yes [ ] ii. No [ ]

ii. What would you say is the advantage of your leadership type over the others.

_____

_____

_____

iii. Have you made decisions in respect to who goes to school or learn a trade.

i. Household head [ ] ii. Individual members [ ] iii. Both household iv. head and members [ ]

iv. How are decisions arrived at in your household?

i. By individual [ ] ii. By negotiation [ ]

v. What is the size of your household work, working population

Working adult! Male _____ Female_____

vi. Do you have non-working members in your household?

i. Yes [ ] ii. No[ ]

vii. If yes indicate there number

i. Male adult _____ ii. Female adult_____

iii. Male children_____ iv. Female children_____

viii. What is your household size(No)?_____

ix. What is your total farm size(ha)?_____

x. How long have you been farming(Yrs)?_____

xi. How many kinds of crops did you cultivate in the previous year?

xii. How many bags of each crop did you obtain in the previous year?

| Crops | Number of bags |
|---|---|

xiii. How much was each bag sold in the previous year?

| Crops | Number of bags | Amount (N) per bag |
|---|---|---|

xiv. Apart from sales and agricultural produce, what else did you sell in the previous year?

i._____ ii. _____

iii._____ iv._____

v_____

xv. How much did you earn from sales of non-agricultural goods in the previous year

| Items sold | Amount (N) |
|---|---|

Institutional variables

xvi. Where do you sell or buy your goods?

i. village market [ ] ii. District market [ ] iii. Regional market [ ] iv. National/international market [

xvii. How many of these markets are within your reach? _____

xviii. Do you encounter any constraints when selling or buying your goods?

i. Yes [ ] ii. No [ ]

xix. If yes, can you specify the constraint(s) encountered?

i._____

ii._____

iii._____

iv._____

v._____

xx. How where you able to cope with such constraints?

i._____

ii._____

iii._____

iv_____

v._____

xxi. Did you obtain credit from any source?

i. Yes [ ] ii. No [ ]

xxii. 48. If yes, indicate the source and amount

Source Amount(N)

xxiii. . In what way did you utilize the amount?

i. farming [ ] ii. Non-farming [ ] iii. Farming and Non-farming [ ]

xxiv. Can you specify the type of non-farm activities you utilize the amount for?

Activities Amount(N)

xxv. Do you belong to any farmers' organization?

i. Yes [ ] ii. No [ ]

xxvi. If yes, what organization do you belong to?_____

xxvii. Did you receive from any of the organizations?

i. Yes [ ] ii. No [ ]

xxviii. If yes what kin d of assistance did you receive?

i. Cash [ ] ii. No [ ]

xxix. How did you use the assistance?

i. Farming Activities [ ] ii. Non-farming activities [ ] iii. Farming and Non-farming activities [ ] iv. Other specific [ ].

xxx. How often do these organizations assist you?

i. very often [ ] ii. Often times [ ] iii. Not very often [ ]

xxxi. What is the strength of your relationship with members of your organization?

i. Very strong ii. Strong iii. Weak

Environmental factors

xxxii. What materials do you use in your livelihood activities?

_____

_____

_____

_____

xxxiii. How do you obtain these materials

i. by buying [ ] ii. By self [ ] iii. Both by self and buying [ ]

xxxiv. Do you encounter any constrains in obtaining these materials?

xxxv. If yes indicate the type of constraints

_____

_____

_____

_____

xxxvi. Does these constraints discourage livelihood diversification?

i. yes [ ] ii. No[ ]

xxxvii. Did you encounter any natural disaster such as fire out break, flood, ill-health and draught in the previous years?

i. Yes [ ] ii. No[ ]

xxxviii. If yes indicate the type of disaster

_____

_____

_____

_____

xxxix. How did you cope with the disaster?

1. Borrowing money or food [ ]
2. Migrating to town [ ]
3. Support from organizations [ ]
4. Family and friends [ ]

xl. What is the distance between your village and the nearest major town (km)?

_____

xli. How often do you visit the town?

i. very often [ ] ii. Often times [ ] iii. Not very often [ ]

xlii. What do you do when you visit the town?

_____

_____

_____

_____

xliii. Do you experience any difficulty in reaching the town?

i. yes [ ] ii. No[ ]

xliv. If yes specify the kind of difficulties

_____

_____

xlv. What activities do you engage in during dry and wet season?

Dry season activities _____

_____

_____

_____

Wet season activities _____

_____

_____

_____

E. farmers perception of poverty reduction due to livelihood diversification.

xlvi. Have you experience poverty?

i. Yes [ ] ii. No [ ]

xlvii. If yes what do you perceive to be poverty or being poor?

_____

_____

_____

xlviii. What are your perceived ways out of poverty.

1. _____
2. _____
3. _____
4. _____
5. _____

xlix. In which areas of your life did livelihood diversification had an effect?

1. _____
2. _____
3. _____
4. _____
5. _____

l. In your own words, how can you assess the effect of livelihood, diversification on poverty reduction of your household?

_____

_____

_____

Standard of living

li. What type of labour source do you use or employ on your farm?

1. Family labour only [ ]
2. Contract /hire labour only [ ]
3. Gayyalabor co-operation only [ ]
4. All of the above [ ]

lii. Why do you use that source of labour? _____

liii. If you use contract/hire labour sources where are the sources of this during planting season?

i. within the village [ ] ii. Out side the village [ ] iii. All of the above [ ]

liv. How do you pay for your contract/hire laborers

1. Cash from surplus of previous sales
2. Remittance from relations/children
3. From credit obtained locally and banks
4. All of the above

lv. Do you often have scarcity of contact/hired laborers?

i. Yes [ ] ii. No [ ]

lvi. If yes to question 81, what are the causes of the scarcity

1. Rural –urban migration ii. Schooling

lvii. Do you hire machines for your farms operations?

i. yes [ ] ii. [ ]

lviii. If yes to question 83 how often _____

lix. If No to question 83 why _____

lx. How big is your land – holding

1. Less than 2 hectares [ ]
2. 2.5 hectares [ ]
3. 5-10 hectares [ ]
4. 10-15 hectares [ ]

5. 15-20 hectares [ ]

lxi. What is the average distance from your house to your farm

1. Less than 1km [ ]
2. More than I km [ ]
3. Above 2 km [ ]
4. Above 3 km [ ]

lxii. How often do you work in you farm?

1. Daily [ ]
2. Weekly [ ]
3. Monthly [ ]
4. Other specify _____

F. Effects of livelihood diversification on poverty redaction of the respondents.

lxiii.

i. Income of respondent (naira).

1. Income from agricultural production in previous years
2. Income from livelihood diversification in the previous years.
3. Total income of respondents (naira)

ii. Food security indicators.

1. Coping strategies of respondents.

| Farmers response | Never | Rarely | Some times | frequently |
|---|---|---|---|---|
| Coping strategies | | | | |
| Eating less preferred food | | | | |
| Limiting portion size | | | | |
| Borrowing food or money to buy food | | | | |
| Paternal/maternal buffering | | | | |
| Skipping meals | | | | |
| Skipping for the whole day | | | | |

Appendix 2: Map of Kaduna State and Kajuru Local Government area showing the study villages.

Appendix 3: conceptual model of factors influencing livelihood diversification among rural farmers and a bar chard of reasons for livelihood diversification.

## C FARM INCOME OF FARMERS

90 What are the types of crops you grown on your farm?

| S/N | Grown | Output in bag/kg | Market price (N) |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |

10

Total

91. What do you choose to grow such crops……..

……
……

92. Do you keep or rear livestock or poultry or both i Yes ( ) ii No ( )

93. If yes to question 92 above, fill this table

| S/N | Animal/birds | Quantity owned | Price per one | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| Total | | | | |

94. Why do you choose to rear such types of livestock……..

……

95. Income per month……..

96. Do you save any part of your cash earning from the farm? i Yes ( ) ii No ( )

97. If Yes to question 96 above, what do you do with your saving?.....

……

98. If no to question 96 above, why?

……
……

99. Distribution, sales and market price of farm outputs.

| S/N | Crop distribution and sales | Crop harvested(kg) | Market price | Total vat |
|---|---|---|---|---|
| A | Total harvest | | | |
| B | Home consumption | | | |
| C | Gift | | | |
| D | Market | | | |
| E | Others | | | |

100. Distribution, sales market prices of animals from January to December.

| S/N | Animal sold | Market price | Total vat |
|---|---|---|---|
| A | Total harvest | | |
| B | Home consumption | | |
| C | Gift | | |
| D | Market | | |
| E | Others | | |

101. Do you use improved seeds for planting?

i. Yes ( ) ii No ( )

102 If yes, to question 101 above fill in the table.

| S/N | Types of seed | Cost price (N) | Transportation | Total cost (N) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

10

Total

103. If No, to question 102 question 102 above why?

……
……

……
……

104 Do you apply fertilizer to your crops?

i. Yes / / ii. No / /

105 If yes, to question 104 above, fill this table.

| S/N | No Types of fertilizer | Quantity in bags/mudu | Transportation | Total cost (N) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| Total | | | | |

106 If no, to question 104 above, how do you overcome this problem?

i. Use of farm year manure / /

ii. Practice crop rotation / /

iii. Plant crop without fertilizer. / /

iv. Other specify / /

107. Do you apply chemicals on your farm for weeds, diseases and pest control? i. Yes / / ii. No. / /

108. If yes to question 107 above, what type and total cost from 2010 to date.

……..

109 If No to question 107 above why?

……

……

110. Do you received any advice from extension/veterinary workers during the planting season?

i. Yes / / ii. No. / /

111 If yes to question 110 above, what are the sources of information?

i. Personal contact / /

ii. Electronic media / /

iii. Newspaper / /

iv. Other (specify) / /