

**EFFECTS OF INFRASTRUCTURE FOR LIVELIHOOD ACTIVITIES ON
SOCIO-ECONOMIC STATUS OF RURAL DWELLERS IN
SOUTHWESTERN NIGERIA**

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ABSTRACT

Infrastructural development such as health facilities, roads, communication facilities and irrigation facilities promotes rural livelihood activities and impacts on Socio-Economic Status (SES) of rural dwellers. Over the years, lack of or inadequate infrastructure persists in rural areas and has negatively impacted on rural dwellers' livelihood activities and by extension their SES. Therefore, the extent to which infrastructure has aided livelihood activities of rural dwellers for improved SES were investigated.

A four-stage sampling procedure was used to select Household Heads (HHs). Oyo, Osun and Ekiti States were randomly selected and rural LGAs were identified. 20% of rural LGAs, 10% of wards and 2% of communities in each ward were randomly selected to give eight LGAs, eight wards and 40 communities, respectively. Using sampling proportionate to size, a total of 348 HHs were selected. Interview schedule was used to elicit information on HHs personal characteristics (age, educational attainment, sex, primary occupation and social group) and enterprise characteristics (years of experience and monthly income), livelihood activities, perceived constraints, benefits derived, perceived effects, SES, infrastructure availability, status, access and extent of use of infrastructure. Indices of infrastructure status (low 15.0-65.0; high 65.1-106.0), access (low 5.0-37.2; high 37.3-72.0), and extent of use (low 0.0-58.3; high 58.4-110.0) were generated. Furthermore, indices of livelihood activities (low 0.0-21.9; high 22.0-114.0), perceived effects of infrastructure use (low 52.0-128.3; high 128.4-150.0), benefits derived (low 0.0-21.7; high 21.8-40.0) and SES (low 0.19-2.32; moderate 2.33-5.68; high 5.69-10.76) were also generated. Data were analysed using descriptive statistics, Chi-square, Pearson product moment correlation and ANOVA at $\alpha 0.05$.

Mean age, years of enterprise experience and monthly income of HHs were 43.0 ± 13.0 , 13.4 ± 1.04 and $\text{₦}18,728:53 \pm 9,870:87$, respectively. Most HHs (86.6%) had formal education, while 56.3%, 49.0% and 52.1% were male, farmers and belonged to cooperative societies, respectively. Available infrastructure facilities were electricity (63.2%), rural health centre (72.1%) and road (80.9%). Status of infrastructure was adjudged poor by

59.8% of HHs. Livelihood activities, access and extent of use of infrastructure were low for 64.4, 58.6 and 56.0% of HHs, respectively. Most severe constraints to infrastructure use were inaccessibility to infrastructure (1.51±0.68), irregular power supply (1.43±0.67) and unavailability of infrastructure (1.40±0.59). More HHs (59.5%) perceived the effects of infrastructure on livelihood activities as positive; however, 52.6% derived low benefits from the use of infrastructure. The SES of most HHs (71.0%) was moderate. Respondents' primary occupation ($\chi^2=32.8$), membership of social group ($\chi^2=5.8$), years of formal education ($r=0.19$), household size ($r=0.24$), age ($r=0.12$) and status of available infrastructure ($r=0.14$) were significantly related to respondents' SES. The SES was significantly higher in Oyo (1.56±0.65) than in Osun (1.29±0.56) and Ekiti (1.15±0.47) States.

Infrastructure for livelihood activities impacted moderately on rural dwellers' socioeconomic status in South-western Nigeria. Governments should endeavour to create an enabling environment for adequate infrastructure for improved socio-economic status of rural dwellers

Keywords: Livelihood activities, Rural infrastructure, Socio-economic status of rural dwellers

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DEDICATION

This thesis is dedicated to God the creator of the Universe, the One who can declare the end from the beginning for giving me the strength to complete this work. It is also dedicated to all who aspire to become great in life. Finally, to all my family members, who also were sources of encouragement during this programme.

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CERTIFICATION

I certify that this study was carried out by ADEBESIN Raulat Oluwakemi in the Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria.

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10 LIST OF ABBREVIATIONS AND ACRONYMS

LGAs	Local Government Areas
FGDs	Focus Group Discussions
ECA	Economic Community of Africa
USAID	United State Agency for International Development
GDP	Gross Domestic Product
FOS	Federal Office of Statistics
FAO	Food and Agricultural Organisation
DFRRI	Directorate of Food, Road and Rural Infrastructure
LEEMP	Local Empowerment and Environmental Management Programme
LEEDS	Local Government Economic Empowerment Development Strategy
CBARDP	Community Based Agricultural and Rural Development Programme
NGOs	Non-Governmental Organisations
MARD	Ministry of Agriculture and Rural Development
SDGs	Sustainable Development Goals
RAMP	Rural Access and Mobility Project
SLA	Sustainable Livelihood Approach
DFID	Department for International Development
ODI	Overseas Development Institute
NRB	Natural Resource Based activities/ Non-natural Resource Based activities
FMARD	Federal Ministry of Agriculture and Rural Development
NEPA	National Electric Power Authority
UNFPA	United Nation Fund Population Authority
NAFPP	National Accelerated Food Production Programme
OFN	Operation Feed the Nation
GR	Green Revolution
IFAD	International Fund for Africa Development

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The agrarian setting is naturally rural in nature therefore, the bedrock of agricultural development in any nation of the world is rural development and shifting attention away from the rural environment will render agricultural development agenda an effort in futility. In most developing countries of the world, subsistence crop and animal farmers are the major groups practicing agriculture in a primitive way, in view of the fact that neglect of rural agriculture based economy has brought about migration of large number of rural dwellers to the urban areas. This in turn has resulted in reduction of people in the rural setting and also not appealing to either economic or social investors (Nchuchuwe and Adejuwon, 2012). Recently, all over the world, there is increasing concern for more than 51% of people residing in the rural areas (World Bank, 2016). This situation is aggravated, particularly in developing countries (CBN, 2013 World Bank, 2008). Many factors, including the level and pattern of government spending and initial distribution of income determine greatly the socio-economic status of people. Agriculture employs nearly one half of the labour force in developing countries according to ECA (2007). Indeed, a high share of rural communities, especially those who are engaged in one livelihood activities or the other are directly or indirectly dependent on agriculture through farming, food processing, fishing, forestry, trade and other livelihood activities (Mohammed, 2007).

There is the need to improve rural areas of the country. This is because about 70% of the inhabitants in Nigeria and almost eighty percent of the poor people in the continent reside in rural areas and agriculture is the major means of their livelihood. The agricultural sector therefore accounts for about 20% of the total exported goods and contributes greatly to

Africa's share in the international market according to FMARD, 2019. Among the twenty topmost food commodity and agricultural importers in 2004, 60% are from Sub-Sahara African countries. African countries account for 50% of these countries, in the share of total agriculture and total export goods around the globe (ECA, 2007). In Nigeria, agriculture

contributes largely to the total amount of goods produced and services provided in the country during the year and money realised from sales of goods and services to other countries (CBN, 1998, World Bank, 1994). Summation of achievements from the factors highlighted above would largely be influenced by the constraints and banes posed by the conditions of infrastructure in those areas. Inadequate infrastructure is one of the major challenges facing rural dwellers as infrastructural challenges noted above include lack of good road network, poor agricultural processing and storage facilities, lack of irrigation facilities and poor health care facilities, inadequate communication facilities and lack of standard and viable market for sales of finished agricultural produce among others. Recent studies have advocated that provision of infrastructure will enhance an individual standard within a particular community Olawuyi and Rahji (2012). Ewebiyi (2014) also reported that lack of basic amenities in the rural areas was responsible for their low level of livelihood diversification leading to migration of people from rural to urban area and this does not promote rural development. International Fund for Africa Development (IFAD), United State Agency for International Development (USAID) and different organisations have contributed immensely to the provision of infrastructure, particularly in rural areas of developing countries as part of their programmes and agenda for rural development. These provisions are in the areas of road construction, health facilities, and schools among others in order to improve the economy of developing countries.

Nigerian economy was dependent on agriculture between 1970s and 1980s which was the only traditional and economic activity at all levels. The peasant farmers dominated agricultural activities in Nigeria and the bulk of the rural dwellers belong to this category (Ewebiyi, 2014). During this period, the Nigerian government was highly committed to and supportive of agricultural development as shown in its annual budget for agriculture which increased from ₦35.4 million in 1973 to ₦602.2 million in 1982 (Ogwumike and Akinibosun, 2013). Agricultural development during this time was also closely associated with rural development, which was then in the interest of the government and often resulted in the provision of infrastructure such as good roads, electricity, market, health facilities, processing facilities, storage facilities, among others. The intention was that the provision of infrastructure would be a pivot upon which assistance of rural dwellers would be built for them to engage in various livelihood activities such as; farm and non-farm activities,

towards improving their socio-economic status and improve the standard of living. According to Oyesola and Ademola (2011), improvement in the lives of rural dwellers depends on sustainable rural livelihood which can be made possible through availability of and accessibility to infrastructure. Some of the agricultural activities include cultivation of arable crops (cassava, maize, cowpea, millet, groundnut), cash crops (cocoa, cashew, kolanut) and livestock farming. Other means of livelihood available to rural dwellers include non-farm activities such as; pottery, hairdressing, processing activities, carpentry, petty trading, gathering of forest leaves and collection of non-timber forest products among others.

However, gone were the days when government's commitment to agricultural development, which is associated with rural development and provision of infrastructure, took centre stage in Nigeria, because the advent of oil has taken over this. This made the contribution of agriculture to Gross Domestic Product (GDP) became 33% lower in 1985 from that of 1970 (FOS, 1999, Arokoyo, 2003 and Akinbile, 2007). This situation put the rural dweller's livelihoods in an abnormal condition with the resultant effect of increased poverty rate caused by poor socio-economic status. Also lack of resources to eradicate hunger and inability of rural households to provide for themselves and their families among others, has put the lives of many vulnerable groups at risk (FAO, 2009). Rural households in any part of the world are very important to a nation's development. They form the largest proportion of the country's population and help in the production of materials for clothing and food. The rural dwellers are important providers of goods that are used for producing different items and major outlet where local manufacturers dispose of their goods (Olayiwola and Adeleye, 2005). Despite this immense relevance of rural populace, they are yet to be given the deserved attention in the area of infrastructural provision. This resulted in the migration of larger proportion of rural dwellers to the urban centres making rural areas become almost desolate thereby hampering agricultural value chain. This state of affair has made rural areas not interesting or appealing to investors. It has also prompted sub-standard ways of life for the rural dwellers.

According to Olaseni and Alade (2012) in their work on vision 2020 and the problems facing the development of infrastructure in Nigeria, infrastructure is referred to as the major

structure on which other structures are built. Rural infrastructure has connection with rural areas and it is categorised into three groups: institutional, economic and social infrastructure. According to Martins (2013), many infrastructures in rural Nigeria are in deplorable conditions. He further noted that mobility in rural Nigeria is still very poor because of the situation of roads. Nwokocha (2007) observes that rural areas are made up of poor basic infrastructure both in quality and quantity. He concludes that they are disproportionately disadvantaged compared to urban centres due to government neglect, which has resulted in poor standard of living and socio-economic status.

1.2 Problem statement

Improvement in socio-economic status and standard of living of rural dwellers is among the important focuses of the Africa Development Agenda. Several countries in Africa are combating with the problem of rural development. The situation is evident in the condition of infrastructure in countries like; Ethiopia, Somalia, Cameroon, some parts of Liberia and Nigeria among others (World Bank, 1994). This implies that Africa is backward and in need of infrastructure especially in the rural areas (ECA, 2007 cited by Nchuchuwe *et al*, 2012).

Provision of infrastructure is very important in the realisation of sustainable rural livelihood. Attention to the condition of rural infrastructure would lead to enhancement of the livelihood activities and improvement of socio-economic status of the rural dwellers. It is on record that lack of adequate infrastructure accounts for the majority of rural-urban migration; city congestion; high rate of unemployment in the city; food insecurity among others, which are rampant in the different countries across the globe (ECA, 2007). According to Gbadamosi, (2001), the infrastructural situations in the rural areas still remain very unpleasant and unacceptable. In Nigeria, more than 70% of the inhabitants reside in rural areas and are involved in utilization of various resources for their livelihood activities (Oyesola, 2007). Most of these people are living in communities with poor resources, ecological vulnerability and inadequate infrastructure (Ladele *et al*, 2011). They are faced with diverse challenges which reduce their productivity such as problems associated with marketing, technological constraints, infrastructural deficiencies, institutional inadequacies, high cost of labour, inadequate input supply, inadequate agricultural incentives and lack of sustainable rural development (Oyesola, 2007).

Olawuyi *et al.* (2012) when analysing rural livelihood diversification, were of the opinion that Nigeria, precisely in the Southwest, accounts for low level of livelihood diversification due to inadequate provision of infrastructure. Inadequate or lack of infrastructure directly affects livelihood activities as shown in a survey conducted in Osun state of Nigeria which reveals that many rural settlements lack provision of basic facilities which can enhance their livelihood activities. In addition, Oyesola (2007), in a study conducted at Akinyele Local Government Area of Oyo state, concludes that there is still need for more attention in the area of provision of infrastructure in the community.

Various programmes including policies had been put in place by various governments to address infrastructural deficit and facilitate rural development in Nigeria. These include

Directorate of Food, Roads and Rural Infrastructure (DFRRI), Rural Development Projects, Local Empowerment and Environmental Management Programme (LEEMP), Local Government Economic Empowerment and Development Strategy (LEEDS), as well as Community-based Agricultural and Rural Development Programme (CBARDP). These programmes have contributed in their own ways to facilitate infrastructural development and transformation of rural communities. Furthermore, various interventions of different Non-Governmental Organisations (NGOs) in Nigeria are parts of the efforts to upgrade the living condition of rural dwellers and an attempt to improve their livelihood. To achieve one of the Sustainable Development Goals (SDGs) in 2015 and to transit the country especially rural setting, towards successfully accomplishing its vision by 2020, the Federal government plans to remove the infrastructural gap between urban and rural sector to unleash growth and wealth creation (NPC, 2010). Also recently, Rural Access and Mobility Project (RAMP) a Federal government project to improve the lives of rural dwellers was established. The programme takes into consideration provision of good road network for rural communities and its environs.

Rural livelihood is a function of rural development therefore rural development efforts embarked upon by these agencies and institutions tended towards addressing peoples' need as observed by Chambers and Conway (1992) and Bryceson (2000) that sustainable rural livelihood is a function of rural development programme which is designed and implemented through the bottom up approach. However, Olayiwola *et al* (2005) and

Ewebiyi (2014) in their studies on rural livelihood were of the opinion that inadequate infrastructure has led to low livelihood diversification and lack of improvement in the livelihood activities and quality of life of rural households. Previous studies have also linked availability of infrastructure to livelihood activities of people in rural communities. However, there is still dearth of information to show the relationship that exists between availability of infrastructure and livelihood activities of an individual and its effects on his socioeconomic status. Despite all these assertions, the rural areas still lack adequate infrastructure to enhance the livelihood and improve socio-economic status of the people. This has created gap between rural people and their urban counterpart. Therefore, this study seeks to investigate the effects of infrastructure for livelihood activities and examine how this relates to the socio-economic status of rural dwellers and provide information in terms of infrastructural profile needed to support various livelihood activities embarked upon by people in rural areas. The study answered the following research questions.

1. What are the personal characteristics of respondents in the study area?
2. What are the enterprise characteristics of respondents in the study area?
3. What are the infrastructure available to respondents in the study area?
4. What is the status of the available infrastructure in the study area?
5. What infrastructure are accessible to the respondents in the study area?
6. What is the extent of infrastructural use on livelihood activities in the study area?
7. What are the different livelihood activities of the respondents in the study area?
8. What infrastructure are needed for each livelihood activities in the study area?
9. What are the perceived constraints militating against effective use of infrastructure in the study area?
10. What are the perceived effects of infrastructure for livelihood activities of the respondents?
11. What are the benefits derived from the use of infrastructure for livelihood activities?
12. What is the socio-economic status of the household heads in the study area?

1.3 Objectives of the study

The broad objective of this study is to investigate the effects of infrastructure for livelihood activities on socio-economic status of rural dwellers in Southwest Nigeria, while the specific objectives are to:

1. describe the personal characteristics of the respondents in the study area.
2. assess the enterprise characteristics of respondents in the study area.
3. identify the infrastructure are available to respondents in the study area.
4. examine the status of the available infrastructure in the study area.
5. determine the infrastructure that are accessible in the study area.
6. examine the extent of use of infrastructure in the study area.
7. identify the different livelihood activities of respondents in the study area
8. determine the infrastructure required for each livelihood activities in the study area.
9. identify the perceived constraints militating against effective use of infrastructure in the study area
10. determine the perceived effects of infrastructure for livelihood activities of the respondents in the study area.
11. identify the benefits of infrastructure for livelihood activities on socioeconomic status of respondents in the study area
12. ascertain the socio-economic status of the respondents in the study area.

1.4 Hypotheses of the study

H₀1 There is no significant relationship between selected personal characteristics of the respondents and the socio-economic status of respondents in the study area.

H₀ 2: There is no significant relationship between the status of available infrastructure and socio-economic status of the household heads in the study area.

H₀ 3: There is no significant relationship between the extent of use of infrastructure and the socio-economic status of respondents in the study area

H₀ 4: There is no significant relationship between the perceived constraints faced in the use of infrastructure and socio-economic status of the respondents in the study area

H₀ 5: There is no significant difference in the livelihood activities of male and female respondents along gender categories in the study area.

H₀ 6: There is no significant difference in the status of available infrastructure across the states in the study area.

H₀ 7: There is no significant difference in the socio-economic status of respondents across the states in the study area.

1.5 Justification of the study

Addressing the effects of infrastructural inadequacy in the rural areas is very crucial to enhancing rural livelihood and by extension, improving the socio-economic status of rural dwellers. Therefore, this study becomes important in that its findings will bridge the existing knowledge-gap on the effects of infrastructure for livelihood activities on socio-economic status of rural dwellers and ascertain the level of socio-economic status of rural households.

It is expected that the findings from the study would serve as a guide to rural dwellers, policy makers and individuals who are engaged in one livelihood activity or the other on how to improve on their socio-economic status. This study would not only ascertain the socio-economic status of the rural households, but will also highlight the different infrastructural profiles needed for various livelihood activities. Hence, it will go a long way in helping to formulate and implement policies that take into consideration provision of infrastructure needed for various livelihood activities in the rural areas with a view to improving the standard of living of rural dwellers vis-à-vis their socio-economic status.

It is on record that majority of Nigerians live in rural areas (Eforuoku, 2018), any effort aimed at improving their standard of living will bring about increase in food production, reduced rate of unemployment and rural-urban migration. Therefore, investigating the effects of infrastructure for livelihood activities on socio-economic status of rural dwellers

will provide a clear picture of those infrastructure which are to be provided in a particular area considering the prevailing livelihood activities of households in that area.

Governments over the years have been providing infrastructure, but the status or condition of the infrastructure is also what this study will investigate and document as this is also very important to the users. In addition to this, results from this study when applied will ensure that provision of basic amenities that will enhance the living condition of rural dwellers is not neglected in policy formulation. This is because infrastructural provision is a veritable tool for rural development (Aderamo and Mogaji, 2010).

Finally, as the outcome of this study shall provide result/empirical data for the policy makers on different infrastructure necessary for different livelihood activities in the study area, such that if the infrastructural facilities are provided in the community where their availability is inadequate there will be an improvement in their socioeconomic status and/or standard of living of rural households, which will in turn results in rural livelihood sustainability. In essence, rural households' involvement in government's decision making process in order for them to present their needs is another important significance of this study. This will help the government to plan for appropriate infrastructure needed for improved livelihood and socio-economic status among the rural farmers.

1.6 Operational definition of terms

Livelihood: This is the means of earning money in order to live.

Livelihood activities: They are different occupations that rural household embarked on or engaged in so as to earn a living.

Infrastructure: They include the facilities or structures needed for the usefulness of an environment and opportunity that allows household to involve in their different livelihood activities. They are facilities, which are relevant to agriculture and other livelihood activities in the rural areas.

Availability: Ability to get, find or obtain a facility.

Accessibility: Ability of a facility to be reached or used easily.

On-farm activities: They are livelihood activities which are done on the farm. They include crop farming, animal rearing, harvesting etc.

Off-farming activities: They are farming related livelihood activities which are not done on the farm. They include processing of agricultural produce into finished goods. Examples include oil palm processing into palm oil and other materials, processing of yam, cassava, melon etc., storage and marketing.

Non-farm activities: They are livelihood activities which have no connection with farming but are also carried out in rural areas. They include activities like hairdressing, barbing, vulcanizing, welding, pottery among others.

Household: This comprises all the people living together, particularly in the same house, building or compound and eats from common pot with the same source of food and identifies themselves as members of a social unit with one of them as the head of the household. This can either be male or female

Rural dwellers: They are individuals who reside in villages or underdeveloped areas and are engaged mainly in farming. They are people who live in an environment which is characterised by the low level of education, high level of poverty and poor standard of living. They do not differ from urban households in terms of biological differences but in social and economic aspects due to the differences in cultural and socioeconomic experiences.

Socio-economic status: This is the grouping of individual, household or family according to occupation, income, education or some other indicators of social status. It is also defined as the position an individual is occupying with respect to prevailing average standard of assured income, material possession and social status.

Sustainable livelihood: This refers to a means of living by which needs are met in a way, without compromising the ability of future generations to meet their own needs.

CHAPTER TWO

LITERATURE REVIEW

2.1 Definition and concept of livelihood

The concept of „livelihood“, since inception has been defined in different ways. According to Loubstar, (1995) in a specific term, a livelihood could be defined as a way of earning a living. Ellis (2003) modifies this definition in order to point out that the issue of access is strongly influenced by their vulnerability context, which takes account of trends (e.g. epidemics, natural disasters, civil strife) and seasonality (e.g. prices, production, and employment opportunities). In general term, it has been conceptualised by the UK Department for International Development (DFID, 2003) as the means through which households acquire and manage resources needed to make them survive both now and in the future, while Tella (2015) defines it as the ability to meet one’s basic needs. The concept of livelihood focuses on any programme, which can lead to reduction in the rate of poverty and rural development. This means that the dependence of households on their ability to possess needed assets draws from the social relationship that exists between these assets (financial, social, natural, human and physical) to bring change and enlarge their scope of assets as well provide a means of using the assets within their disposal to improve their means of livelihood.

Livelihoods employ dynamism i.e. it changes from time to time. For this unique fact, households adjust in their choice of livelihood activities since they are social in nature and based on physical assets (e.g. infrastructure) available in their locality. The ultimate goal should be transformation of assets into income, business organisation and great aspiration to improve living conditions by successful livelihood. This will serve as a pre-requisite for high socio-economic status. Livelihood is universal and this makes both wealthy or people living in abject poverty to pursue it to earn a living. Meanwhile, various researches conducted in the past revealed that adverse impacts of infrastructural inadequacies have

continued to threaten and erode peoples' opportunity to acquire their basic needs, ability and right most especially among the rural inhabitants and thus preventing them from improving on their socio-economic status. (Leary *et al.*, 2008 and Adger, 2010).

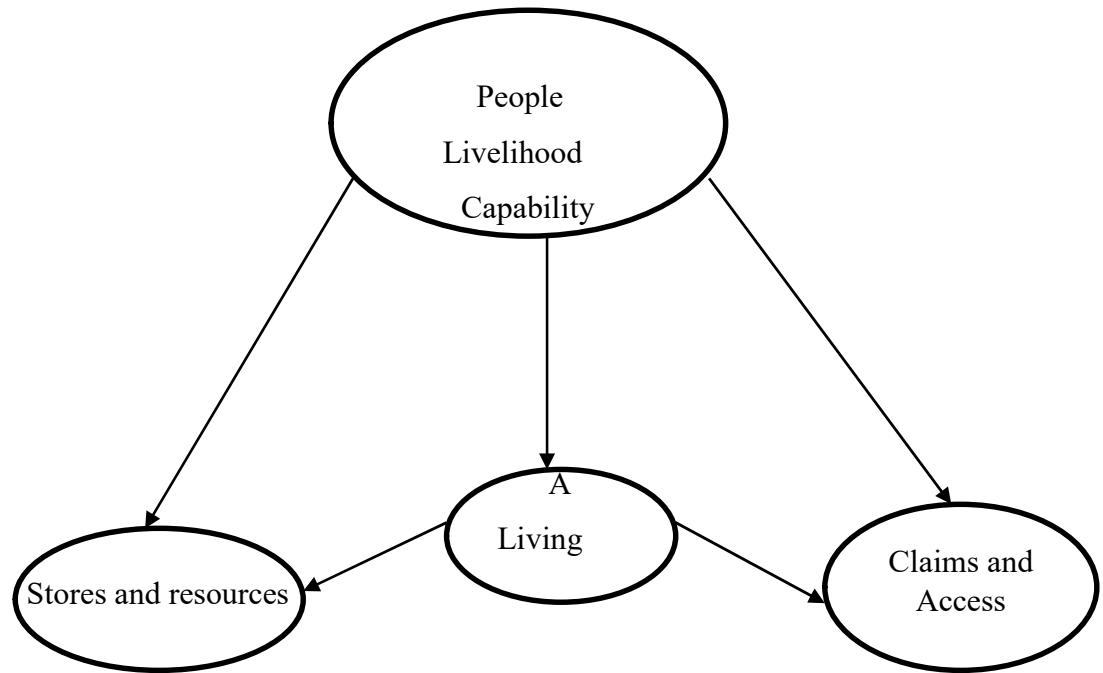
Different studies had been conducted on rural livelihoods of the rural dwellers. Odebode (2003) and Ogwumike *et al.*, (2013) observed that rural households faced a lot of poverty related problems including food insecurity. Ewebiyi (2014), concluded in his study on livelihood activities diversification that rural households diversify their livelihoods in order to overcome poverty for different reasons ranging from sales only, household consumption, spreading of risks among others. However, the livelihood diversification is low in the study area due to inadequate provision of infrastructure which has continued to put rural households on the verge of poverty. Corroborating this, Olawuyi *et al.* (2012) also argued that there should be provision of basic infrastructure such as access to good roads, potable water supply, health care centres, market and electricity supply among others by government in the rural areas. Akinbile, (2007) claimed that majority of the rural dwellers were of low socio-economic status and there is need to assist them to improve their socioeconomic status such that farming will be interesting as it will make room for the ageing farmers to be adequately succeeded. There is therefore, an urgent need for this kind of study to investigate infrastructure in relation to rural household livelihood activities on their socio-economic status.

The relationship that exists between the provision of infrastructure and the level of involvement of the rural households in livelihood activities will be unveiled. For instance, provision of feeder roads and potable water in the rural areas will contribute to rural livelihood and development, which will provide quick movement of farm inputs into the village and transportation of farm produce from the farm. There will also be reduction in costs of transportation of portage and time lost in walking long distances, thereby enhancing better ways of distributing farm produce between the rural and urban sectors. In the same vein, setting up small processing and manufacturing industries will be possible as a result of rural electrification thereby providing employment, raising rural productivity, income, standard of living and by extension socio-economic status.

In addition, rural dwellers should be provided with basic needs of life, which include health facilities and good source of potable water in villages, where there is inadequate and good water supply, which is found to have a direct relationship with diseases outbreak. Repairing of shed in the market place and building of new sheds where needed is essential. Usefulness related to infrastructural provision in rural areas among others are sales of produce at profitable prices, reduction in the spoilage of farm produce, higher productivity and decrease in the movement of youth from rural areas to the town. It will also prove that availability and accessibility of infrastructure is very important to meaningful and sustainable rural livelihoods including poverty alleviation.

2.2 Concept of sustainable livelihood

Livelihood can be regarded as a way of getting a living. It is simply a means of improving one's life. It is the product of livelihood assets utilised and activities engaged in, in order to make a living. This living can be attained through a process involving people, assets and resources (Leary, 2008 and Laurie, 2003). The living is circled by three components: the people (livelihood capabilities), tangible assets (stores and resources) and intangible assets (claims and access) as shown in Figure 1. Living at the centre of livelihood implies that there is an attempt by people to access and claim ownership of assets used for certain activities in order to generate outcomes that contribute towards poverty alleviation and improved socio-economic status (Jazairy, Alamgir and Panuccio, 1992).



Tangible Assets Intangible Assets

FIGURE 1: COMPONENTS AND FLOWS IN A LIVELIHOOD

Source: Adopted from Chambers and Conway (1991), Chambers (1995).

2.3 The concept of livelihood strategies

The concept of livelihood strategies on its own can be defined as a system adopted by person(s) in such a way that they can overcome (Adediran, 2008). Livelihood and strategies are two important things that should be considered in making a living. Livelihood deals with assets, activities and access, while strategy deals with the methods or means through which people combine the three components; in order to live or survive. Various activities are embedded in livelihood strategies such that the end result is to acquire a means of living.

They include pattern of people's behaviour when harmonising the three components of livelihood (assets, activities and access). Livelihood strategies are therefore the series of different activities that are combined by people in order to achieve their livelihood goals (Bryceson, 1996). The choice of activities chosen and combined by an individual depends on available assets at their disposal harnessed in such a way that they achieve the best and desirable livelihood results. These activities include marketing, production, processing, purchasing agricultural shares and reproductive choices. The activities that rural people engaged in can be classified as on-farm and non-farm activities among others and these give them opportunity to be involved in food crops, cash crops and animal production as well as off-farm activities like processing and sales of agricultural produce. In this way, each household is able to make a living and also ensures that their educational skill, health and nutrition are not neglected (Adediran 2008).

The type of strategy chosen is not constant because people change and combine different livelihood activities so that they can be able to meet their dynamic necessity of life. In the livelihood strategy, an individual or household may combine a wide range of income sources in order to have some additional money and improve his/ her socio-economic status. As a result of increased income, reduction in the level of poverty and improved quality of life for rural dwellers can be achieved. In agricultural community, rural dwellers' engagement for example, is not only restricted to farming but atimes includes other livelihood activities such as pottery making, hairdressing, processing activities (e.g. *garri* processing) and gathering of forest leaves. Migration (either seasonal or permanent) is another common strategy among the rural dwellers and this occurs as a result of inadequate infrastructure in the rural areas. A major influence on rural dwellers' choice of livelihood strategy is the availability of adequate infrastructure, policies, institution and processes

organised by the government. Strategies adopted by men on their livelihood are continuously or increasingly dependent on farming system through strengthening of the use of available materials and adoption of more labourers. Increased expenses to cultivate a particular area of land or increased grazing capacity will be determined by accessibility to labour, capital and land. Another major factor that can affect the type of strategies to be adopted is technical know-how of the new ideas. Resources and materials needed by rural dwellers for off-farm diversification will now depend on whether this option is available or not and how often the household make use of them.

Other meaning that can be given to diversification in this sense can be to increase the number of on-farm activities that an individual or household in general engages in or to add off-farm activities like processing of produce, selling of farm produce or even getting new jobs such as white collar job. This can either be to gather more money that can be added to the previous activities, or it may be needed for other purposes in order to manage temporary unpleasant situation or as a final measure to combat the failure of their livelihood options such that their need will be met. The ability to meet these needs is limited as a result of inadequate infrastructure for rural communities and such they tend to leave the communities in search of job to better their lots (Ebitigha, 2008).

2.4 Sustainable livelihood approach

Sustainable livelihood approach is a combination of people's abilities in relation with vulnerability context and transforming structures to achieve more income, reduced vulnerability, food security, better health, balanced mental wellbeing and sustainable use of natural resources (DFID, 2002). With social capital being the most important of all assets (Yusuf, 2008), people need the support of others within his/her environment, in one way or the other, so as to improve on his wellbeing.

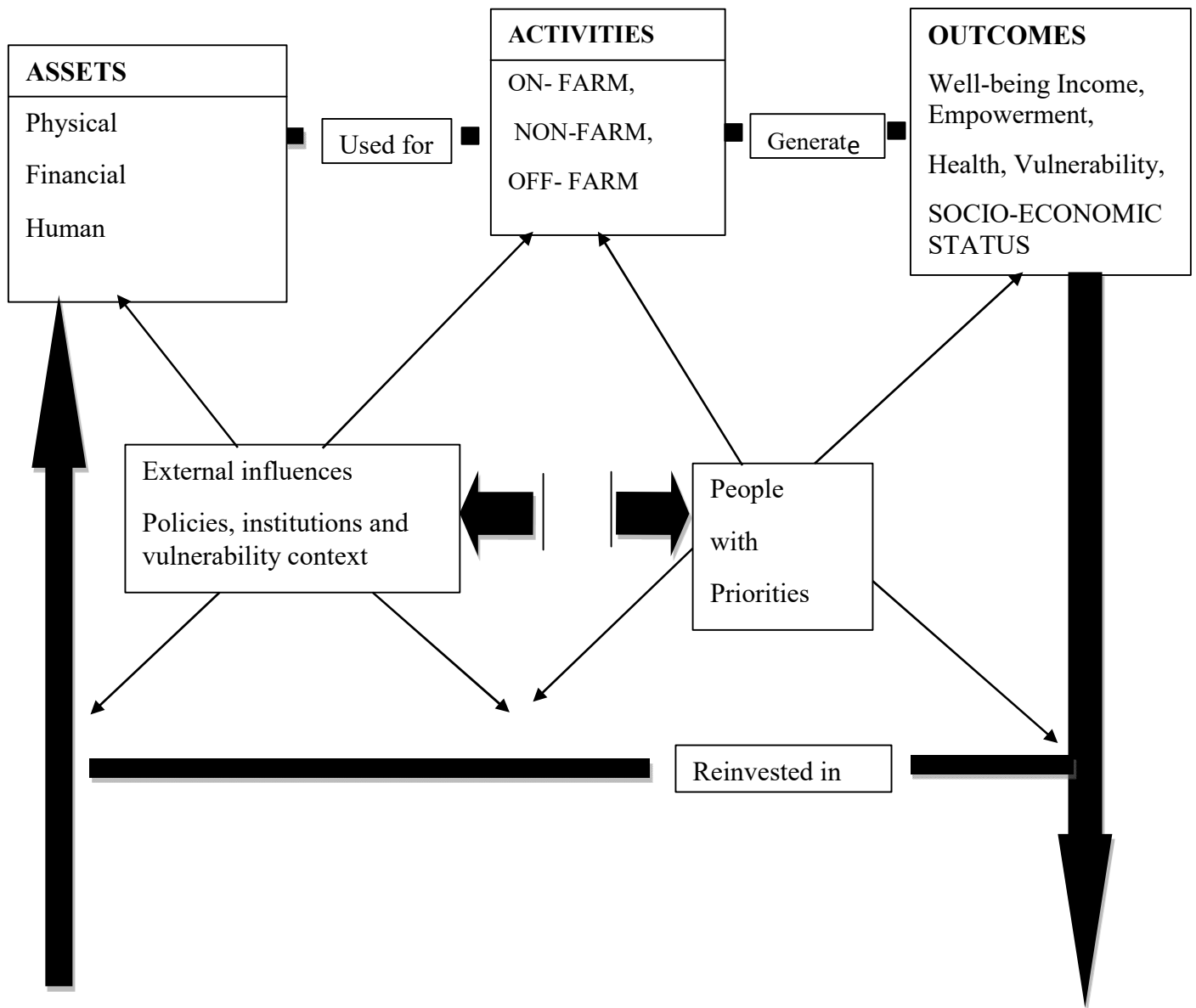
The Sustainable Livelihood Approach (SLA) is based on the knowledge of multiple approach as regards to people's lives, and identify various activities and assets, which are needed to achieve productivity. This approach to improvement in the lives of rural dwellers has enumerated big differences in the objectives, which people desire and the livelihood strategies they use to acquire them, it has listed relevance of assets especially physical assets such as infrastructure, including social capital, in determining wellbeing vis-a vis

socioeconomic status. This approach stands out because it takes people-centred methodology. Putting people at the centre of the developmental approach is even what spells out the success of the development programme. People, rather than resources and governmental organisations, are important. It is more important to understand people and assets that make up their livelihoods than how they use one specific resource. In addition, there should be responsiveness and participation in working with all individuals that are concerned with elements of dynamism and adaptation. Dynamism of development programme is also a function of how people within the community will accept it. It provides critical results and chances for individuals, households and communities to participate in livelihood opportunities. The idea considers every available resource such as accessibility of individual to infrastructure among others which have the ability to reduce poverty. Furthermore, at the centre of this approach is the idea of sustainability. DFID (2001) outlines four key dimensions to sustainability: economic, institutional, social and environmental, and it is suggested that a balance must be found between them. In a livelihood context, the definition of sustainability is the capacity of a livelihood system to withstand shocks, enhance the quality of people's life, and as a result improves socioeconomic status of an individual.

2.5 Concept of sustainable rural development

The main issue addressed by livelihood concept centres on rural development and reduction in the rate of poverty. For any developmental programme to be sustainable there must be, to an extent, certain level of growth in the economy and equal distribution in the provision of basic needs. Thus, there will be a growing positive environmental impacts on the lives of individuals within the vicinity. Sustainable development should proffer solution for social inequalities and environmental damage, as well as maintain a sound economic base for the rural households so that they can compete favourably with their urban counterparts (MARD, 2002).

Sustainable development brings improvement in the standard of living of individuals and quality of basic amenities in the communities. In order to reduce the rate at which rural people migrate to the urban centres, rural communities must provide opportunity for improved quality of lives for people including education, health care services, different livelihood opportunities, social services and in general infrastructure that are required for proper planning (Janvry, Sadoulet and Murgal, 2002).



Source: Ashley (2000), adapted from DFID (1999) Guidance Sheet and Carney (1998)
FIGURE 2: A Simplified Livelihood Approach Framework

2.6 The concept of livelihood capabilities/abilities

The concept of capability entails the human capability (good health, information, understanding and skills that you gain through education or experience) and material concerns (food intake or income) and physical capability that enable people to do things.

Livelihood capabilities entail the potentials of individuals or group of individuals accrued to achieve their livelihood goals as a unit (family or organisation). It also emphasises that capability is an important factor that enhances livelihood sustainability. This is a subset, therefore this factor (e.g. infrastructure) determines the ability to produce goods and services (livelihood activities) [Bebbinton, 1999].

Livelihood ability, on the other hand, entails the potential of an individual that enables him/her to carry out livelihood activities effectively, aimed at achieving potential livelihood outcomes. The significance of man's impact in achieving national development programmes cannot be overemphasised. According to Chambers and Conway (1992), for livelihood to be sustainable individuals involved must possess livelihood capability such that they will be able to cope with any difficult situations and also discover and use any available livelihood opportunities. It is an established truth that individuals come across hard times in their lives. Hence, they should be encouraged to use their own method and capability to develop a wider range of products, interests and skills in order to be more successful or reduce risk with provision of infrastructure to enable them carry out these livelihood activities.

2.7 The concept of capital assets

The concept of capital assets is based on the premise that these capitals are those assets that individuals or households depend upon to build their livelihoods. These include land, labour, savings, tools, access to social networks and access to infrastructure and information (ODI, 2003). These assets are classified into five types of capital assets. These identified capital assets are the ladder upon which livelihoods are built. The five types of capital assets are natural, physical, human, social and economic assets. The term "capital" is the asset invested in productive activities such as crop production, fishing, livestock rearing, which yield a flow of benefits over time. However, some capital assets are preferred, more valuable and in form of savings like cash, jewellery, insurance, among others and may be sold or converted directly into consumption if necessary. In addition, capital assets according to DFID (2001) include financial, social, human, natural and physical capital.

This physical capital is called infrastructure which is the concern of this study.

Livelihood is sustainable when it is supported by availability of assets. Accessibility to capital or variety of resources such as education, infrastructure like good road, health facilities lead to livelihood achievement. Household depends on the five types of capital to form their livelihood opportunity. Furthermore, these livelihood resources can be formed or disrupted due to either what operates, shocks or dynamism of season based on the more vulnerable situations that individuals reside in. Greater access to transport, markets, schools, electricity and water systems will improve rural dwellers' standard of living and strengthen their ability to ensure sustainable livelihoods. (The concept „capital“ and „assets“ are often used interchangeably in the literature of livelihood).

2.8 Livelihood assets

Household members in their bid to improve their socioeconomic status, pool together their resources so as to involve in different activities that will enable them achieve the best livelihood alternatives for individual in particular and the household in general. Therefore, the livelihood assets available to the household represent the pivot upon which the household livelihood may be built (Ellis, 2000a). According to Babulo *et al.*,(2008), livelihood asset is referred to as the combination of both human and non-human resources upon which livelihoods are depended and to which people need access. They comprise accumulation of capital that can be kept, exchanged or chosen for activities to bring about flow of income or means of livelihoods or other benefits (Rakodi, 1999). Based on the DFID (2002) framework, these assets can be divided into five different types or at times represented as a pentagon which is made up of the five important capitals, which are natural, human, physical, financial and social assets.

2.8.1 Natural asset

The natural assets of rural households are made up of natural resources which are Gods' given endowments. They are flow of resources, which have accumulated for a very long

period of time and are needed for the pursuit of livelihood opportunities (DFID, 2000). Various types of natural assets of rural households among others are land, gold, wildlife biodiversity, water, crude oil, environment and other mineral resources (Scoones, 1998). In Nigeria, land is a very crucial natural asset to the inhabitants of rural areas due to the fact that most of them are engaged in subsistence and large scale farming. In rural communities, secured access to land creates the most assured privileges to improve the livelihoods of rural households and develop assets that can reduce their vulnerabilities. The outcome will thereby improve their socio-economic status. Water as a natural asset is of importance to rural households because it is part of life. According to UNCED (2000), water contributes to the well-being of man through its usefulness for domestic, agricultural and non-agricultural purposes. Natural asset is being passed down from generation to generation. Rural households attach great importance to natural asset because they perceive it as a valuable asset that can determine their socioeconomic status.

2.8.2 Social asset

Social asset is made up of the social resources, which include group membership, relationship of trust, accessibility of household to large society and social network, which individuals depend on to achieve their livelihoods (DFID, 2000). Human beings are social animals that relate with one another to make life more meaningful. A non-social individual cannot pave his way to the level a social individual will do. This is a function of the personality traits of different individuals. In Nigerian rural communities, examples of social groups include age groups, cooperative societies, work exchange groups, Fadama users' groups, farmers associations, market associations, religious organizations, community-based organizations, and *esusu* groups (Jibowo, 1992). A person occupying a position in a social group can be said to have higher social capital than someone who is just a member. Also, a member of a social group can be said to have a higher social asset than an individual who does not belong to a social group. Rural households belong to various groups. They believe in unity and intimate interaction, since they are few in the community.

2.8.3 Human asset

Scoones (1998) observes that human asset is made up of the skills, good health, knowledge and ability to labour which are prerequisites for different livelihood strategies that are

pursued by households. Since agriculture is the major occupation of rural households in most parts of the world they have high population of member extending the arm of help to the labour force of the household (Ekong, 2003). Many youths, virtually every day, leave the rural areas for urban centres in pursuit of a better livelihood (Jibowo, 1992). This has resulted in the reduction of the rural labour force, leaving the elderly or aged in the village. In rural Nigeria today, hired labour, family labour and informal work exchange constitute human asset of rural households. A poor and subsistence farmer may not be able to afford the services of a hired labour, while a commercial and big farmer may conveniently do that. Family labour or informal work exchange is what a peasant farmer will rely on. ODI (2000) confirms that a household is an economic unit with its members contributing to human asset using the skills they possess to build their livelihoods.

2.8.4 Physical asset

Physical asset includes the basic infrastructure, production equipment, processing equipment, and other ways by which people embark on their livelihoods (DFID, 2000). The basic infrastructure include transport, shelter, energy and communication. Examples of physical asset are livestock, tractors, machineries, building, farm implements, generator, production equipment, tree crops and other equipment. ODI (2003) explains that physical asset can be sold and converted into cash in times of hardship. In most rural communities, the quantity of physical asset possessed determines the socio-economic status of the people. Physical asset as perceived by members of a community is usually held onto from generation to generation. It is one of the factors that can affect the productivity of a household (DFID, 2000).

2.8.5 Financial asset

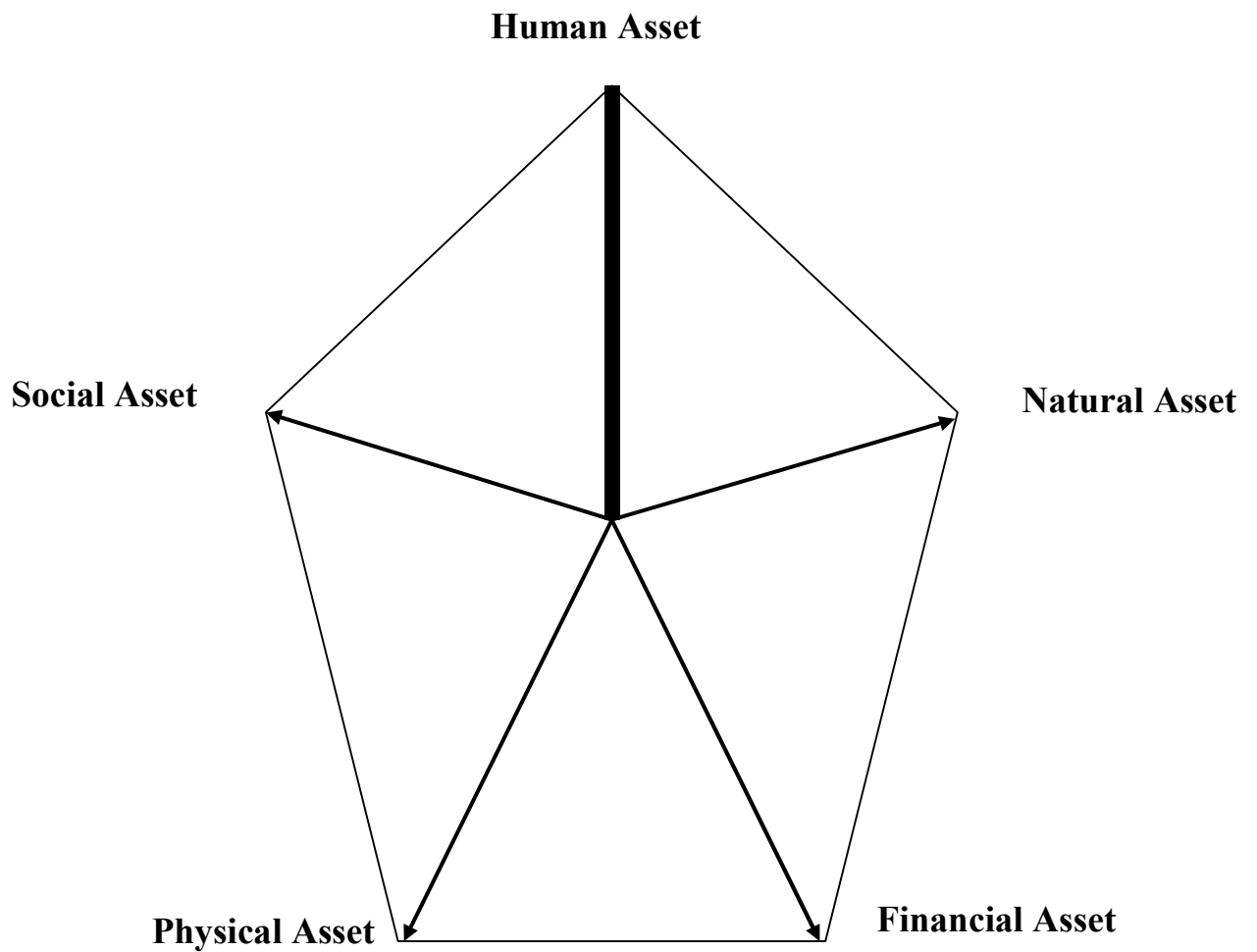
Financial asset is made up of the accrued money or whatever can be measured in monetary term, which people can use to start business or assist them in setting up different livelihood activities (Scoones, 1998). These include savings, supplies of credit, regular remittance, informal credit and thrift and informal work exchange. ODI (2000) submitted that financial asset is the income of the household that can be acquired through trading of goods and

production of services, and transfers to whom one may be liable or entitled, which include pension payment, taxes, food relief and help from kin.

Household income is usually measured as cash earnings plus subsistence production. It is described as the cash flow plus expenditure, with adjustment for savings and consumption from stocks, measured over a given period; year, season and month, while cash flow is the key measure of financial capital (Source). In typical subsistence households, cash flow equals production minus consumption. Nevertheless, there is a close relationship between resources which people use for their livelihood activities when they are facing difficulty, their robustness and overall livelihood assets (DFID, 2000). This robustness can be displayed by rising out of poverty (including one's vulnerability to shock) and one's access to those assets (DFID, 2000). Different households have different levels of access to this range of assets. The diversity and amount of these different assets that household have at their disposal and the balance between them, according to Parrot *et al.* (2006), will affect what sort of livelihood they are able to create for themselves at any particular moment.

2.8.6 The asset pentagon

The asset pentagon is the visual representation of individual or household assets, which shows essential connection and how these various assets are inter-woven. Each angle of this pentagon shows the main feature or relationship that exists between the different assets and how people have access to them. Individuals' or households' non-accessibility to assets was represented by centre point of the pentagon, where the lines meet. Meanwhile, maximum access to assets was represented by the outer perimeter (DFID, 1999). This implies that pentagon can assume different shapes for various communities or social groups within communities as shown in figure 3.



Source: Adapted from Oliver Serrat Livelihood Framework, 2006

Figure 3: Expanding Pentagon Representation of Livelihood Assets

2.9 Concept of rural area

Rurality as the name implies comes from the word „rural “. The word rurality means the state of or quality of being rural. Rurality is shown in varying degrees in the different

countries of the world. Despite the wide general consensus that the term „rurality“ empirically refers to populations living in areas of low population and small settlements, there are broad distinction in the ideology that is operationally used to differentiate rural from urban areas.

Rurality has been defined on several occasions based on different empirical attributes. According to Olawoye (1984), the size of a community is not sufficient information for having a well-rounded view of a village. Ekong (2003) supported that figures from census have been used to dichotomize rural from urban areas traditionally but the lack of consensus on the figures has brought controversy on the use of census definitions.

In 1991, the census conducted by Nigerian Population Commission (NPC) revealed that a national average of 63.72% was living in rural areas in 1988, which was lower than the 1983 figures (81.0%). According to the census, a rural area is defined as a settlement occupying people that are not more than twenty thousand inhabitants. This, however, has been argued on many fronts as not being a totally encompassing definition (Omotesho, Adewunmi and Fadimula, 2007).

Ecological, occupational and socio-cultural indicators have also been used to classify some communities as rural. Olawoye (1984), from her study on degree of rurality, discovered that these three indicators are not always directly related to each other since some communities may have a high proportion of farmers, although such communities may be of relatively large size with many amenities. This clear observation makes the classification of rural areas in terms of these three indicators unreliable.

In a bid to bring out a clear difference between a rural and urban area, Ekong (2003) argued that communities could be classified as urban owing to the existence of some amenities. The settlements in Nigeria cannot boast of all these amenities. This implies that, it is not easy to classify some communities as typically rural or urban. Olawoye (1984) asserted that rural communities should not be considered to be homogenous units since the indicators that depict rurality and the amenities present in each settlement may vary from one place to another. This will give room for appreciation of variances in communities. Different livelihood activities such as tailoring, weaving, hairdressing, petty trading, transportation

business, photography, blacksmithing etc., are carried out by the rural dwellers apart from farming. These are used to augment their income, improve their well-being and overall socio-economic status. However, there is little improvement in that aspect of rural life due to inadequate infrastructure such as storage facilities, processing facilities, electricity, portable water supply, road, health and communication facilities among others.

2.10 Characteristics of rural areas and the socio-economic status of its inhabitants

Rural areas, going by its definition is characterised by certain factors. Rural areas comprise of people with the following: 1)small cultivable area of land

- 2) low level of capital
- 3) endemically low productivity coupled with high poverty level
- 4) poor physical infrastructure,
- 5) low level of standard of living,
- 6) ineffective institutional structures,
- 7) poor technical efficiency.

This situation reveals that rural areas have inadequate basic and social amenities to support socially and economically satisfying lifestyles among the rural dwellers. Rural area is defined as a place where the population of people is low and the people are mostly involved in agriculture. Also, they are engaged in different livelihood activities such as off-farm and non-farm activities as described by Carney (1999). Akinbile (2007), reported that rural dwellers were of low socio-economic status and this may prevent them from improving their productivity due to inadequate or absence of basic amenities.

2.11 Livelihood activities of rural households

Livelihood according to Tella (2015) is defined as a way through which individual is able to meet the three basic needs (food, shelter and clothing) of life. Livelihood is also defined as different activities that help an individual to obtain the above set of needs collectively or as separate entity. This is achieved by using available materials (both human and material) for fulfilling his own needs and that of his household. Hence, dignity and sustainability are acquired. Livelihood concentrates on every possible way through which individual get their means of survival (Olawoye, 2000). Therefore, it is the way by which households obtain and maintain access to necessary resources in ensuring immediate and long-term survival.

A livelihood comprises different activities, through which individual or household survival is achieved (Ellis, 2000). The physical environment where people reside in most cases determines the type of activities to be carried out. Livelihood of rural households is composed of varieties of activities which are carried out on the farm or outside the farm. These activities are crop cultivation, animal husbandry, hunting, gathering of woods among others. These activities create enabling environment for securing ways of obtaining food and other necessities of lives needed by man (Chambers and Conway 1992). Meanwhile, involvement in these activities may become difficult due to absence of rural infrastructure. If this occurs, it is important to take action to change the obstacles (Chambers *et al*, 1992).

Olawoye (2000) confirmed that for rural dwellers to meet their needs they have to combine product of several different activities with their income, which can only be possible if adequate rural infrastructure is put in place. The continuous existence of man and the ability to meet his needs is determined by his involvement in different types of livelihood activities. Hence, livelihood is germane to the survival of individuals. Idachaba (1995) also submitted that livelihood is an activity that forms the basis for all economic, general health and happiness of people.

Some of these livelihood activities include on-farm activities such as planting of food crops (cassava, maize, cowpea, millet, groundnut), cash crops (cocoa, cashew, kolanut) and rearing of animals. Off-farm activities are cassava processing, oil palm processing, melon processing, hunting, milling of farm products, grinding of pepper, palm wine tapping, gathering of NTFPs and locust bean processing, while non-farm activities are pottery,

hairdressing, carpentry, basket weaving, shoe making, rentals, vulcanising, welding, barbing among others. Local trade includes petty trading, food vending, sales of water, sales of processed agricultural products and local formal employment are teaching, nursing, LGA civil service, LGA night guard and migratory wage services such as casual skilled and unskilled labour.

2.12 Infrastructure

Infrastructure involves goods and means through which people pursue their livelihoods. The basic infrastructural facilities include roads, energy sources, irrigation facilities, communication facilities, storage and processing facilities, which are employed in the production process. Good roads, accessibility to useful information, potable water supply, clean and cheap source of energy are usually very important for livelihood to be profitable.

Physical capital possessed by people in most cases require infrastructure to flourish. However, the provision of physical capital and infrastructure would enable poor people to achieve their livelihood objectives. Physical capital (infrastructure particularly) requires a huge amount of money. It also requires that an enabling environment should be created by government and Non-Governmental Organisations (NGOs) for availability of infrastructure and the necessary human and financial support needed for its maintenance. Therefore, special attention must be given to means of ensuring that individual or household gets desired level of service that will help them meet their pressing needs. The need for such assets is a core concept in understanding poverty. Also, the provision of such assets has long been a focus of development and overseas aid.

2.13 Effects of Infrastructure for livelihood activities on socio-economic status of rural households

The basic functional item necessary for livelihood activities in any community is infrastructure. The basic infrastructure needed by households to be more productive includes transport, energy and communication facilities and processing equipment.

Rural areas in most cases do not have adequate infrastructure like good roads, which could facilitate purchase of necessary farm inputs and delivery of their goods to the point of sale/distribution. Without good roads, rural people are cut off from technological development and emerging markets in urban centres. Low socio-economic status among the rural people has been established, and this might be because of poor infrastructure that hinders development and mobility (Olawuyi *et al*, 2012). Poor infrastructure hinders communication, resulting in social isolation among rural poor, many of whom have limited access to media and news outlet, which could be of benefit to them on their livelihood/economic activities.

Also, lack of roads and poor irrigation systems result in greater work intensity in many rural communities. This leads to increase in the cost of production or more dependence on family labour where there is inadequate fund (Isa, 2007). It equally results in inability to provide all year round due to lack of irrigation facilities which limits annual farm output.

2.14 Efforts of past governments on rural development in Nigeria

Different programmes had been organised by government and these include:

- i. National Accelerated Food Production Programme (NAFPP)
- ii. Operation Feed the Nation (OFN)
- iii. Green Revolution (GR)
- iv. Agricultural Development Project (ADP)

2.14.1 National Accelerated Food Production Programme (NAFPP).

This was initiated in 1972 by the Federal Department of Agriculture during General Yakubu Gowon's regime. The programme focused on bringing about significant increase in the production of maize, cassava, rice and wheat in the Northern states through subsistent production within a short period of time. The programme was designed to spread to other states in the country after the pilot stage that was established in Oyo, Ogun, Benue, Plateau and Kano states. The programme was also designed in such a way that feeder roads,

electricity and cheap shelter through local resources are provided. Moreover, infrastructure were also provided to improve the qualities of life of rural dwellers in the country (Njoku, 1985).

2.14.2 Operation Feed the Nation (OFN)

This programme evolved on the 21st of May 1976 under the Military Regime of General Olusegun Obasanjo. The programme was launched in order to bring about increased food production in the entire nation through the active involvement and participation of everybody in every discipline thereby making everybody capable of partly or wholly feeding him or herself. Under this programme every available land in urban, sub-urban and rural areas were meant to be planted while government provided inputs and subsidies (like agrochemical, fertilizers, improved varieties of seed/seedlings, day old chicks, machetes, sickles, hoes etc) freely to government establishments. Individual received these inputs at a subsidized rate (Offu, 2013).

2.14.3 Green Revolution

The Green Revolution was a programme inaugurated by Shehu Shagari in April 1980. The programme was aimed at increasing production of food and raw materials in order to ensure food security and self-sufficiency in basic staples. Secondly, it aspired to boost production of livestock and fish in order to meet home and export needs and to expand and diversify the nations' foreign exchange earnings through production and processing of export crops (Pingali and Broca, 2012).

2.14.4 The River Basin Development Authority (RBDA)

River Basin Development Decree was promulgated in 1976 to establish eleven River Basin Development Authorities (RBDAs) (Decree 25 of 1976). The initial aim of the authorities was to boost economic potentials of the existing water bodies particularly irrigation and fishery with hydroelectric power generation and domestic water supply as secondary

objectives. The objective of the programme was later extended to other areas most importantly to production and rural infrastructural development (Gana, 2019).

2.15 Impacts of the Directorate of Food, Roads and Rural Infrastructure (DFRRI) on rural livelihood in Nigeria

The Directorate of Food, Roads and Rural Infrastructure (DFRRI) was established in 1986 by General Babangida to provide means for rural development. This was to enhance provision of electricity, feeder roads, health facilities and potable water for the rural dwellers. The establishment of the Directorate of Food, Roads and Rural Infrastructure (DFRRI) was in isolation from the previous programme but also recognised the importance associated with basic needs such as food, shelter and potable water. DFRRI was able to leave an indelible mark on the rural areas. The Directorate of Food, Roads and Rural infrastructure (DFRRI) is relevant within the purview of the provision and sustenance of rural development policy and strategy. The problems of rural development in Nigeria, which need to be tackled, include rural urban migration, urban bias development, severe raw material shortages, non-participation of rural communities and rising population with unstable food production (Idachaba, 1985).

The general content of DFRRI's strategy therefore consists of food and agriculture, handicraft, cottage and small scale industries, rural education and human resources development, grassroots sports development; political and social mobilisation. It should be stated here that the aim of agricultural mobilisation and rural infrastructural development programmes is seemingly to create a conducive atmosphere for attractive rural conditions. Thus, since the agricultural sector possesses the capacity to absorb rural labour force and at the same time provides essential raw materials for agro-allied industries, projects like the World bank sponsored ADPs, NALDA, etc. were established to sustain the tempo of agricultural and rural development. Other related agencies were established to enhance and improve agricultural production, rural income and welfare as well as the overall levels of rural condition of living. However, DFRRI could not meet up with some of its goals as a

result of many reasons. These include lack of standard for project harmonization and effective mechanisms for co-ordination among the three tiers of government and between DFFRI. Ultimately, government failed to recognise the indispensability of infrastructural provision in process of rural development.

In a nutshell, DFRRI also failed to continue with the original standard that it was built upon, and at the long run did not meet the intended purpose and folded up. About ₦1.9b was spent on the project (very close to ₦80b today's value) without Nigeria gaining from it (Idachaba, 2013).

2.16 Concept of Socio-Economic Status

Socio-economic status (SES) is a very essential social classification, with different meaning in many societies. They also vary and have clear distinction among various races and languages. It is one among various necessary concepts that have been measured in social science research. It plays a significant role in planning and execution of development programmes especially in developing countries, Nigeria inclusive (Tiwari, *et al*, 2005). Socio-economic status of an individual determines to a great extent the types of livelihood activities he engages in as shown by various studies. In one of the studies conducted it was revealed that those households with high socio-economic status engaged themselves in cash crops production such as coffee, while the people with low socio-economic status were mainly involved in food crops production like cassava and maize (Some, 2018)

Socio-economic status is also described as a classification of individual, household or family according to occupation, income, education or some other indicators of social status (Wilson, 1985). Socio-economic status has been found to affect labour availability for agricultural purposes, savings and investment decisions, type of crop grown, number of varieties of animal a livestock farmer could keep and adoption of innovation (Akinbile, 1997, Adewale, 1999, Ifeanyi *et al*, 2009).

Socio-economic status is not just accumulation of income, but also comprises financial capability, educational level, personal idea or opinion of individuals about social status and social class.

2.17 Impacts of Socio-Economic Status on people's life

An individual socio-economic status is usually determined and classified as low, moderate and high. A person or group of people socio-economic status has very great influence on individual lives. Several factors have been found to affect socio-economic status; some of which include

2.17.1 Physical health: It was discovered that individuals with low socio-economic status have higher rates of infant mortality and many other diseases.

2.17.2 Mental health: Socio-economic status also affects someone's mental health. Apart from physical health, cases of depression, suicide, drug abuse, behavioural and developmental issues are also reported among communities or individuals with low socioeconomic status.

2.17.3 General health and welfare: Crime rate and poverty are also associated with socioeconomic status apart from its relationship with an individual's wellbeing (Cassedy, 2013).

CHAPTER THREE

3.0 Theoretical and conceptual framework

3.1 Theoretical framework

Definition of theory as put forward by one of the authors is a premise used as the foundation for action. It is a conjectural thought, a proposition established to illustrate an event or scenario or a postulation that exists in concept, but not necessarily in reality (Eforuoku, 2018).

These are relevant theories considered for this study:

1. The household production theory
2. Sustainable livelihood theory
3. Human ecology theory.

3.1.1 The household production theory

This theory describes the way productivity level of rural dwellers is being obtained from production assets (resources) at each of the production and exchange level (Nancy and Kenneth, 1981). At the production level, resources like farmland, labour, inputs, farm implements and machines among others are utilised to enhance their production opportunities. All these are common assets that rural dwellers make use of and they can result in increase in production of the households. However, different services are rendered to households and these services can cause increase in production through the use of

different production assets such as good roads, health facilities, communication facilities, storage and processing facilities among others.

Assets potentials will continue to be left unused or become redundant until there is a way to access them. Resources have important roles to perform based on how the inhabitants of rural communities can involve in agricultural activities that can bring higher profitability. Thus, implying that the livelihood activities are meaningful and profitable. Therefore, leading to improved and sustainable rural household livelihoods. The production assets here are the infrastructural facilities, which required by rural households to carry out their livelihood activities. The rural dwellers can be engaged in a number of livelihood activities and as such, provide high returns which will invariably result in high quality of lives and improved socio-economic status.

3.1.2 Sustainable livelihood theory

This theoretical framework is based on the premise that there should be improvement in the livelihood of the poor especially those in the rural areas. Its approach depends on the major factors which are hindering poor individuals' livelihood and the network of association among them (Morse and McNamara, 2013). This theory will help in instituting and determining new developmental programme for the rural households. The sustainable livelihood (SL) framework arranges individuals in the household especially rural poor at the central part of the relationship and this influences involvement of individual in livelihood activities to create a living for the member of his house and himself. The next to the households are the assets and livelihood abilities that can be utilised. Another factor is infrastructural facilities that are required by the people to carry out their livelihood activities. Once this is provided, it will help them to diversify their livelihood activities for improved socio-economic status.

3.1.3 Human ecology theory

This theoretical postulation assumes that human being and their natural environment are always in close interaction. It is based on social concepts that are concerned with the

reliance of man on available limited resources provided for satisfaction of human needs (Bubolz and Sontang, 2014). This theoretical framework is significant in finding out livelihood and household strategies for food security. Communities in the rural areas are concerned with livelihood issue and any dynamism in these communities can greatly influence the quality of lives, livelihood and food security of rural inhabitants.

This theory implies that for man to be productive, it depends mainly on how often he can have access to different assets, which are useful for him. This is because there is always a correlation between an individual and his immediate environment. Provision of good road, for example, will help quick evacuation and delivery of goods from rural areas/villages to town. This will also boost farmers' profit due to reduction in the transportation cost and produce wastage. Moreover, constant and adequate supply of potable water in the rural communities will serve as opportunity for them to overcome water borne diseases, which they might contract as a result of poor source of potable water. All these will consequently raise the standard and quality of life of rural dwellers and invariably there will be positive change in their socio-economic status.

3.2 Conceptual framework of the study

Conceptual framework is used to make conceptual distinction and organise ideas. It is the organisation of ideas to achieve the purpose of a research project (Shields and Ranganjan, 2013). It is an analytical tool with several variations and contexts meant to guide research design (Aworh, Babalola, Gbadegesin, Isiugo-Abanihe, Oladiran and Okunmadewa, 2006). It is represented schematically presenting the various predicted research outcome. This work presented its framework using three important classes of variables. These are the independent, intervening and dependent variables. The independent variables in this study consist of personal characteristics of the selected rural household heads which include their age, years of formal education, household size, primary occupation, sex, membership of social group, leader of an organisation, marital status and religion. Enterprise characteristics include years of experience in the enterprise, type of labour used, number of people used in labour, monthly income, worth of enterprise, availability of infrastructure, accessibility to infrastructure, extent of use of infrastructure, perceived constraints to the use of infrastructure, benefits derived from the use of infrastructure, livelihood activities of

respondents and perceived effects of infrastructure for livelihood activities on socioeconomic status of rural households.

The interaction or interrelationship between all the elements of the three variables affects one another in the study. Socio-economic status of rural dwellers is the dependent variable of the study. The intervening variables are variables that are not measured in the study, but also impacted on the outcome of study. These include cultural differences, government policy, and climatic condition among others.

3.3 Explanation of the framework

As shown in Figure 4, the first category of the variables in the framework is the personal characteristics of rural dwellers in Southwestern Nigeria. The variables include age, household size, primary occupation, sex, level of educational attainment, membership of social group, leader of an organisation, marital status, and religion. All these are expected to influence the enterprise characteristics, as well as available and accessible infrastructure. Age is a very influencing factor in determining livelihood activities of an individual.

Respondents' personal characteristics are also presumed to affect their enterprise characteristics which will in turn be affected by available infrastructure. Extent of use of infrastructure was also determined by accessibility to the infrastructure. Furthermore, respondents' personal characteristics such as level of educational attainment or age may directly relate to their livelihood activities and socio-economic status. Availability of infrastructure, accessibility to infrastructure, extent of use of infrastructure and perceived constraints to the use of infrastructure are expected to determine largely the number of livelihood activities, which rural dwellers engaged in and this invariably may determine their socio-economic status.

The interplay of these independent variables are likely to determine how respondents react to cultural differences, climatic variation, government policy (intervening variables) which are assumed to collectively determine their involvement in livelihood activities and their socio-economic status. The result of this interrelationship is that infrastructure may have effect on livelihood activities and the socio-economic status of the respondents either directly or indirectly in the study area.

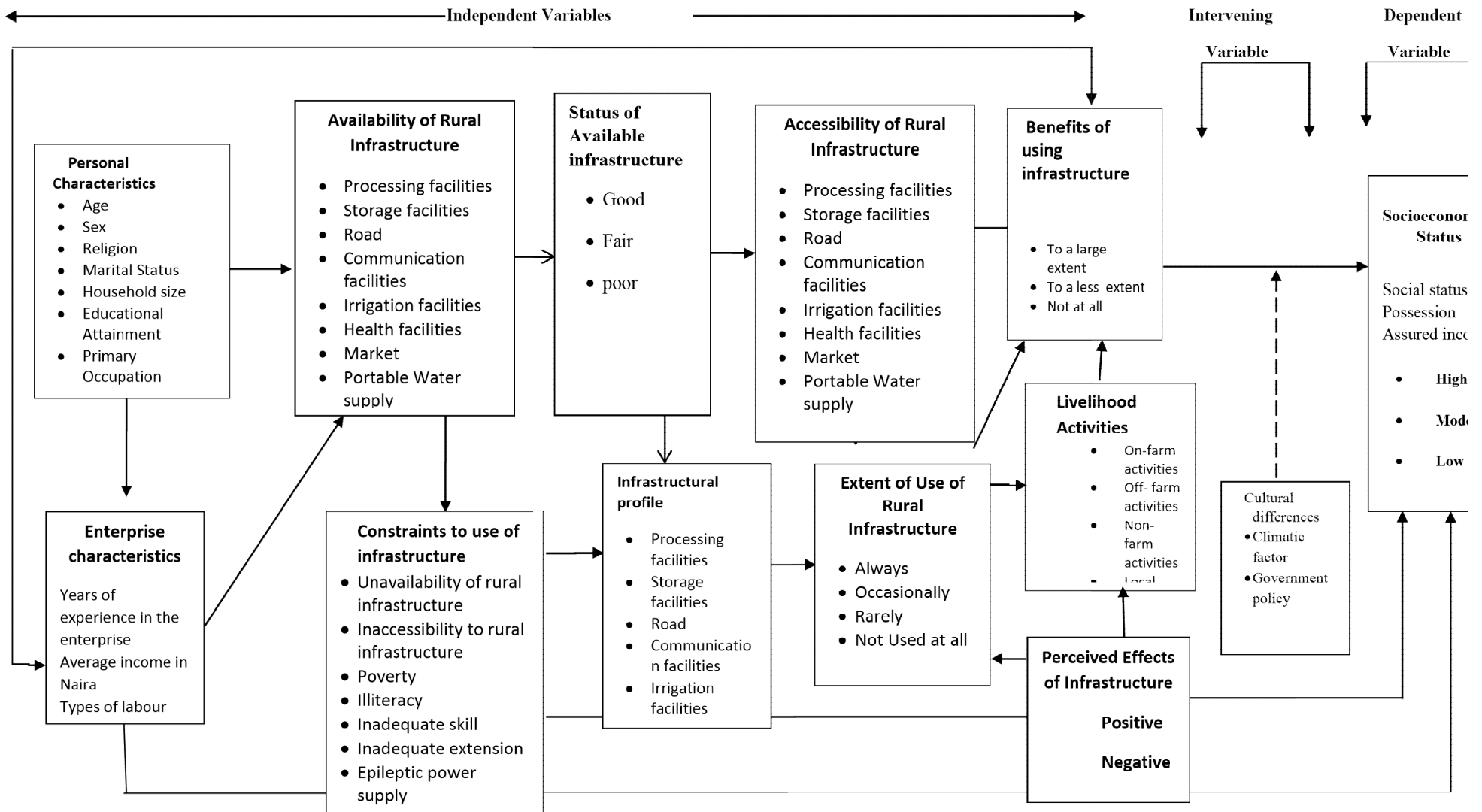


Figure 4: Conceptual framework of effects of infrastructure for livelihood activities on socio-economic status of rural dwellers in Southwest, Nigeria.

CHAPTER FOUR

4.0

METHODOLOGY

4.1 Study area

The study was conducted in South-west, Nigeria. The zone lies between latitude $5^{\circ}8'$ and $9^{\circ}10'$ and has an area of 77,818 square kilometres (Faleyimu, Akinyemi and Agbeja, 2010). It is one of the six major geopolitical zones of Nigeria. The population of the zone is 27,581,982 (National Population Commission, 2006). The states in the South-west zone include: Ogun, Osun, Lagos, Oyo, Ondo and Ekiti States. From the south of the zone to the north, the ecology is characterized by fresh water swamp, tropical rainforest and derived savannah.

It is bordered by the Republic of Benin in the west, the Atlantic Ocean to the south, Edo and Delta States in the east as well as Kwara and Kogi States in the north as presented on Figure 5. The climatic condition in South-west, Nigeria is tropical rainforest which is accompanied by wet and dry seasons. The mean annual rainfall ranges from 1,500mm to 3,000mm per annum while the mean monthly temperature ranges from $18 - 24^{\circ}\text{C}$ during the rainy season and $30^{\circ}\text{C} - 35^{\circ}\text{C}$ during the dry season.

Agriculture is the main source of livelihood of the South-west inhabitants; therefore, farmers predominate this area with diverse farming systems dictated by ecology and culture of the people. They are also involved in different livelihood activities such as carpentry, blacksmithing, fishing palm processing, transportation business, teaching among others. Crops cultivated in the southern zone include both arable and cash crops like maize, cassava, yam, vegetables, pepper, cocoa, kolanut, oil palm, plantain and banana. The northern part, which is drier with lesser rainfall, contains shea butter, locust bean, cashew and mango plants. The zone is also suitable for maize, cassava, millet and cowpea.

STUDY AREA

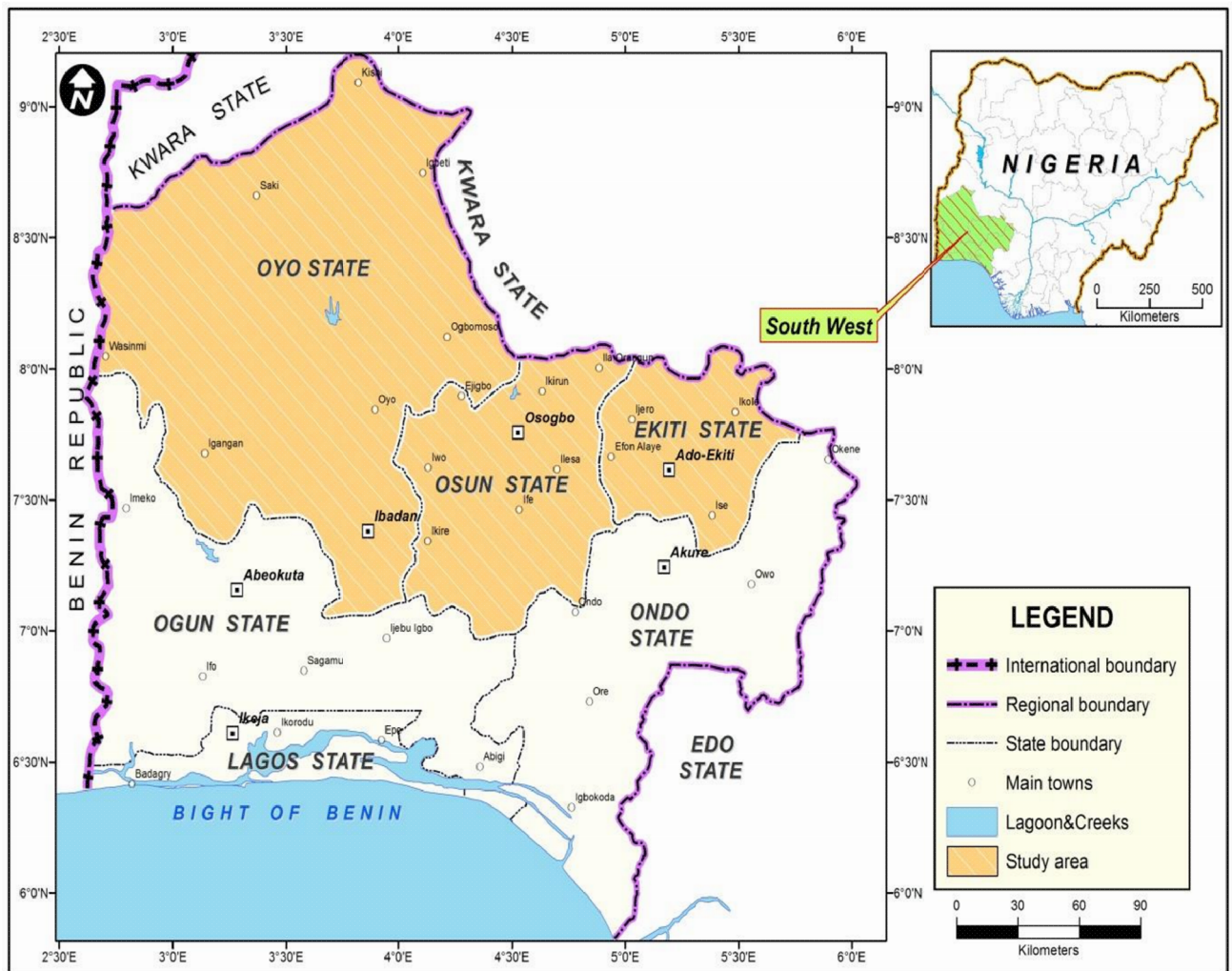


Figure 5: Map of Nigeria showing selected states in Southwest, Nigeria

Source: Geography Department, University of Ibadan, Ibadan, Nigeria

4.2 Study population

The population of the study were rural household heads in South-west, Nigeria.

4.3 Sampling procedure and sample size

Stage 1: Simple random sampling was used to select 50% of the states in South-west, Nigeria. These states were: Oyo, Osun and Ekiti States. Rural LGAs were identified through the help of the Local Government Areas officials. There are thirty-three (33) LGAs in Oyo State out of which seventeen (17) are rural LGAs, thirty (30) LGAs in Osun State out of which sixteen (16) are rural LGAs and lastly, sixteen (16) LGAs in Ekiti State out of which nine (9) are rural LGAs.

Stage 2: In this stage, simple random selection of twenty per cent (20%) of the rural LGAs was done. This gave two (2) LGAs in Ekiti State, three (3) LGAs in Osun State and three (3) LGAs in Oyo State, which gave a total of eight (8) LGAs. The LGAs selected include: Ido

Osi and Gbonyin (Ekiti), Atisbo, Ibarapa East and Lagelu (Oyo), Ayedaade, Atakumosa West and Ifelodun (Osun) because of the diversity of livelihood activities in the LGAs.

Stage 3: The third stage involved a random selection of 10% of the wards in each of the LGAs. There are ten (10) wards in Ido Osi LGA, ten (10) wards in Gbonyin LGA, eleven (11) wards in Ayedaade LGA, eleven (11) wards in Atakumosa West, twelve (12) wards in Ifelodun LGA, ten (10) wards in Ibarapa East LGA, fourteen (14) wards in Lagelu LGA and ten (10) wards in Atisbo LGA. The wards selected include: Ifisin (Ido Osi LGA), Agbado (Gbonyin LGA), Gbongan (Ayedaade LGA), Isa Obi (Atakumosa West), Obagun (Ifelodun LGA), Eruwa (Ibarapa East), Ago Are (Atisbo), Iyana Offa (Lagelu). These form a total of eight (8) wards.

Stage 4: The fourth stage involved random selection of 2% of the communities in each of the wards to form forty (40) communities. Using sampling proportionate to size, a total of three hundred and forty-eight (348) household heads were selected.

States	No of LGAs	No of rural LGAs	20% of selected rural LGAs	Selected LGAs	No of wards in LGAs	10% LGA Wards	Selected wards	No of communities selected in the wards	Selected communities in the wards	No of THHs selected
Ekiti	16	9	2	Ido Osi	10	1	Ifisin	5	Ifisin ekiti, Ilogun, Odo ora, Ora ekiti, Oke ora	46
				Gbonyin	10	1	Agbado	5	Aba Ikare, Ekan Egbeda, Aba ologun, Aba oba, Alabameji	50
Oyo	33	17	3	Ibarapa East	10	1	Eruwa	5	Orita, Alagi, Ile Aro, Sango, Ile asalu	45
				Lagelu	14	1	Iyana-Offa	5	Sagbe, Kure, Kelebe, Pabiekun, Alabebe	36
				Atisbo	10	1	Ago-amodu	5	Oganla, Akilapa, Saka, Alapo, Isale ola	50
Osun	30	16	3	Ayedaade	11	1	Gbongan	5	Oke oje, Oke bola, Idi Iroko, Olufi, Adenuga	50
				Atakumosa West	11	1	Isa Obi	5	Ibodi, Sasa, Ijana, Alakowe, Atakumosa	38
				Ifelodun	12	1	Obagun	5	Ayaba, Oke glo, Idi ogungun, Bosere, Idi oke	33
Total	79	42	8			8		40		348

Table 4.1: Sampling procedure and sample size of respondents

4.4 Sources of data

The data for the study included both qualitative and quantitative methods.

4.5 Instruments for data collection

Structured interview was used to elicit quantitative information from the respondents. Also, Focused Group Discussions (FGDs) was used to collect qualitative data. The interview schedule captured information on personal characteristics of rural household heads, enterprise characteristics, available infrastructure, status of available infrastructure, accessibility to infrastructure, extent of use of infrastructure, perceived constraints to the use of infrastructure, infrastructural profile for each livelihood activities, livelihood activities of the respondents, benefits derived from using infrastructure for livelihood activities, perceived effects of infrastructure for livelihood activities and socio-economic status of respondents.

4.6 Validation of instrument

Validity of the instrument for data collection was subjected to face and content validity with the help of Lecturers in the Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Nigeria.

4.7 Test for reliability of instruments

Split-half method was used to assess the reliability of the instruments. Thirty (30) interview schedules were administered on household heads at Ewekoro LGAs of Ogun State. After the administration of the interview schedules, the interview schedules were divided into two and each half was tested separately. The result of one half of the test was compared with the other half and reliability coefficients of 0.75 were obtained. This showed that the instruments were adjudged reliable and considered appropriate for the study.

4.8 Measurement of variables

4.8.1 Personal characteristics of the respondents:

1. **Age:** Respondents stated their actual age in years.
2. **Sex:** The respondent's sex was assigned scores as male (1) and female (2).
3. **Religion:** Respondent's religion was measured at nominal level as Christianity, Islam and Traditional worship. Scores were assigned as Christianity (1), Islam (2), and Traditional worship (3).
4. **Marital status:** The respondent's marital status was measured at nominal level as single (1), married (2), divorce (3), widow or widower (4)
5. **Household size:** Number of persons that live under the respondents' roof and eat from the same pot was indicated. This was measured at interval level.
6. **Years of formal education:** The year of formal education of household heads were indicated. Scores were assigned as no formal education (1), primary education (2), secondary education (3) and tertiary education (4).
7. **Primary occupations:** Respondents' primary occupations were indicated. Primary occupations of respondents were measured at nominal level as food crop farming (1), livestock rearing (2), food crop farming and livestock rearing (3), trading (4), agricultural processing (5), daily waged labour (6), artisan (7) and salaried job (8).
8. **Secondary occupation:** Respondents' secondary occupation was indicated. This was measured at nominal level as food crop farming (1), livestock rearing (2), food crop farming and livestock rearing (3), trading (4), agricultural processing (5), daily waged labour (6), artisan (7) and salaried job (8).
9. **Social groups:** Respondents indicated their social groups. This was measured at nominal level as age group (1), cooperative society (2), religious group (3) and membership of association (4).

10. Position in the social groups: Respondents indicated their positions in the social group. Respondents' position in the social group was measured at nominal level as leader (1), executive (2), committee member (3) and ordinary member (4). .

4.8.2 Enterprise characteristics of respondents

The enterprise characteristics of the rural dwellers were measured at various levels. They were measured as follow:

Years of farming or other enterprise experience: Respondents indicated their exact years of farming or other enterprise experience and this is measured at interval level.

Type of labour used for livelihood activities: Type of labour used by respondents was indicated and was measured at nominal level as family labour (1), hired labour (2) and both (3).

Number of persons used for labour: The actual number of persons used for labour was indicated and was measured at interval level.

Average income per month in Naira: The actual income of respondents in naira per month was indicated and was measured at interval level.

Worth of enterprise in Naira: Actual worth of respondents' enterprise in naira was indicated and was measured at interval level.

4.8.3 Availability of infrastructure to the respondents in the study area

Availability of infrastructure to respondents was measured from responses indicated as available as public, available as private and not available from forty-two (42) items of infrastructure that were listed. This was operationalised on a three-point scale of available as public (2), available as private (1), not available (0) for infrastructure such as processing facilities, good roads, communication facilities etc. Frequencies and percentages were used to measure infrastructure that were available as public, private and not available.

4.8.4 Status of infrastructure available to respondents

The status of available infrastructure was measured at interval level from responses indicated as good, fair and poor from forty-two (42) items of infrastructure that were listed. This was operationalised on a three-point scale of good (3), fair (2) and poor (1) for infrastructure such as processing facilities, good roads, communication facilities among others. The maximum score was 126 and minimum score 42. The mean and standard deviation were obtained. The score between mean plus one standard deviation and maximum score represents good status of infrastructure, the score between mean minus one standard deviation and mean plus one standard deviation represents fair status of infrastructure, while the score between the minimum score and mean minus one standard deviation represents poor status of infrastructure.

4.8.5 Accessibility of infrastructure to respondents

Accessibility of infrastructure was measured from responses indicated as accessible to a larger extent, that is always available for use within the village, accessible to a lesser extent, that is available for use in two villages away and not accessible from forty-two (42) items of infrastructure that were listed. This was operationalised on a three-point scale of accessible to a larger extent i.e ability of the infrastructure to be reached for use within the village (2), accessible to a lesser extent, that is the ability of the infrastructure to be reached for use in two villages away (1) and not accessible at all (0) for infrastructure like storage facilities, processing facilities, energy source among others. The maximum score was (84) and the minimum score was (0) and a mean score was obtained. Mean and above mean score were used to categorise the level of accessibility. Above mean score represents high accessibility while below mean score represents low accessibility. Frequencies and percentages were also obtained from the responses.

4.8.6 The extent of use of infrastructure

In order to assess the extent of the use of infrastructure, responses indicated as frequently used, that is at least thrice a week, occasionally used which is at most twice a week, rarely used which is once in four weeks using forty-two (42) items of infrastructure that were listed. This was operationalised on a four-point scale of frequently used, that is at least thrice week (3), occasionally used which is at most twice a week (2), rarely used, that is once in four weeks (1) and not used at all (0) for infrastructure like storage facilities, processing facilities, energy source, among others. The maximum score was (126) and the minimum score was (0) and a mean score was obtained. Mean and above mean were used to categorise the extent of use of infrastructure. Above mean score represents high level of use of infrastructure while below mean score represents low level of use of infrastructure.

Frequencies and percentages were also obtained.

4.8.7 Livelihood activities of the respondents

Respondents' livelihood activities were measured by presenting to the respondents from the lists of the given livelihood activities like on-farm activities (crop farming, livestock farming, fishing among others), off-farming (cassava processing, oil palm processing among others), non-farm activities (transportation, carpentry, tailoring among others), local trade (petty trading, food vending, sales of water among others), local formal employment (teaching, nursing and others). Respondents indicated the livelihood activities they were engaged in as always, sometimes and not at all. This was operationalised on a three-point scale of always (2) that is those activities that they carried out in both seasons, sometimes (1) that is those activities that they carried out in either of the seasons and not at all (0). These were measured by using frequencies and percentages to determine the involvement of respondents in different livelihood activities.

4.8.8 Infrastructural profile required for different livelihood activities

Respondents indicated infrastructure required for their livelihood activities, for example onfarm activities, off-farm activities, non-farm activities among others from forty-two items of infrastructure listed. Multiple bar charts were used to measure the infrastructure required

for each of the livelihood activities. Respondents indicated as many of the facilities applicable to their livelihood activities from the list of infrastructure like storage facilities, processing facilities (milling machine, roasting equipment dryer, etc) and energy source (coal, firewood electricity, generator etc).

4.8.9 Perceived constraints to the use of infrastructure for livelihood activities

Perceived constraints faced by respondents on the use of infrastructure for their livelihood activities were measured using responses from the list of possible constraints to the use of infrastructure presented to the respondents. These include inadequate access to information, irregular power supply, lack of fund, inaccessibility to infrastructure; lack of skill / technical knowledge about the use of certain machines, conflict within the community, change in demand of produce, socio-economic status of respondent, diversification, unavailability of infrastructure among others. The respondents indicated the level of severity of the constraints on a three-point scale, which were operationalised as severe constraint (2), mild constraint (1) and not a constraint (0). The constraint items were thereafter ranked in their order of severity using their mean which eventually determined the constraints affecting the use of infrastructure in the study area.

4.8.10 Benefits derived by respondents from the use of infrastructure for livelihood activities on their socio-economic status

Respondents stated benefits they derived from using infrastructure for their livelihood from array of twenty benefit items listed. The items include increase in the rate of returns, creation of employment opportunities, improvement in the condition of health, availability of storage facilities, improvement of socio-economic status as a result of good roads, adequate water supply, reduction in number of hours spent on water collection, increased earning as result of involvement in more livelihood activities, access to information on marketing activities among others. The benefits derived were measured using the scale of

“to a larger extent” which means that there is more than 50% increase in their profit, “to a lesser extent” which implies that there is less than 50% increase in their profit, and “not at all” which means that there is no increase in their profit. They were assigned scores as 2, 1

and 0 respectively. The maximum score was 40 while the minimum score was 0. The responses were ranked using mean score to determine the most benefits derived by the respondents in using infrastructure for their livelihood activities in the study area.

4.8.11 Perceived effects of infrastructure for livelihood activities on socio-economic status of the respondents

Measurement of perceived effects of infrastructure on socio-economic status of the rural dwellers was achieved using positively and negatively worded items. Using a five-point Likert scale, the respondents indicated their responses through a list of thirty (30) positive and negative perception statements about the effects of infrastructure on livelihood activities that were presented to them. Respondents were asked to choose either positive or negative statements and were scored five points and one respectively if otherwise.

Scores were assigned to positive statements as: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2) and Strongly Disagree (1) while negative statements were assigned scores as Strongly Disagree (5), Disagree (4), Undecided (3), Agree (4) and Strongly Agree (1). The maximum score was 150 and minimum score was 30. An individual perception effect index was computed and the mean perception value was obtained. Below and above mean criterion was used. The respondents were categorised into two based on their mean. Individuals who had indices up to the mean or above were categorised as having positive effects of infrastructure for livelihood activities, while those with indices below the mean were adjudged as having negative perception of the effects of infrastructure for livelihood activities on socio-economic status of respondents.

4.8.12 Socio-Economic Status of the respondents

The dependent variable of this work is the socio-economic status of the respondents. The scale developed by Akinbile, 2007 for the measurement of socio-economic status of rural farm families was used in determining the socio-economic status of household heads in the study area. The scale has thirty-three (33) items that were scorable and are good indicators of socio-economic status (i.e those items that were significant) from a standardized scale. The items were grouped into two. The first twelve items such as storey building in village, other

houses in village, house in city, children in higher institution, children that graduate, functioning vehicles, relatives living under roof, number of wives, ceiling/ table/ standing fan, wooden bed with mattress, electric stove and size of farm were graduated items and weight were assigned to them as whether respondents possessed none (0), (1), (2-4), and (above 4) because these items occur rarely among the other possessed items and are most important, and as such were given highest scores. The respondents indicated the number of each of the items they possessed.

The remaining twenty-one items such as floor rug, dining table, cushioned executive chair, bicycle, motorcycle, chieftaincy title, leader of any society/organization, member of executive organization, refrigerator, cooking gas, pit latrine, toilet with water cistern, television, personal generator, radio cassette player, well, deep well with pumping machine/ borehole, glass plates, modern grinders, modern milling machine and member of cooperative societies were non-graduated items and weight were also assigned to them as either yes (1) or no (0). Respondents' levels of socio-economic status were obtained through indices that were computed; mean and standard deviation were calculated. The score between mean plus one standard deviation and maximum score represents high level of socio-economic status, the score between mean minus one standard deviation and mean plus one standard deviation represents moderate level of socio-economic status, while the score between the minimum score and mean minus one standard deviation represents low level of socio-economic status.

4.9 Data analysis

The data collected were analysed with the aid of descriptive statistical tools which include: frequencies, tables, percentage distribution, means, bar chart and standard deviation and inferential statistical tools such as chi-square, PPMC and ANOVA. These were used to describe the objectives of the study. The hypotheses' testing was used to determine the relationships and differences between the dependent and independent variables. The statistical tools used include Chi-square, Pearson product moment correlation (PPMC), student t-test and analysis of variance (ANOVA). This is summarized as follows:

Hypothesis 1` was tested using chi-square and Pearson product moment correlation (PPMC). Sex, religion, marital status, primary occupation, secondary occupation and membership of social group were tested using chi-square while age, household size and years of formal education were tested using PPMC.

Hypotheses 2, 3 & 4 were tested using PPMC.

Hypothesis 5 was tested using student t-test.

Hypothesis 6 & 7 were tested using ANOVA.

CHAPTER FIVE

RESULTS AND DISCUSSION

5.0 Introduction

Chapter five presents the results of the study.

5.1: Respondents' personal characteristics

5.1.1 Sex

Result on Figure 6 shows the distribution of the respondents by sex that 52.7% were male while 47.3% were female. This indicates that although research has shown an increase in number of female household heads both in the developed and developing countries of the world (Bumpas and Kelly, 1995); the male still dominates rural income generating activities. This is in agreement with Ekong (2003) in Ewebiyi (2014) that there are more male household heads of productive age in rural areas of South-west Nigeria than female. In addition, Aminu (2019) also found that more male dominated income generating activities than female in Osun state. Male dominance in income generating activities is expected to bring about positive impacts on their livelihood activities because they are stronger and possess more energy. They would love to improve their socio-economic status which is one of the intentions of involving in more livelihood activities.

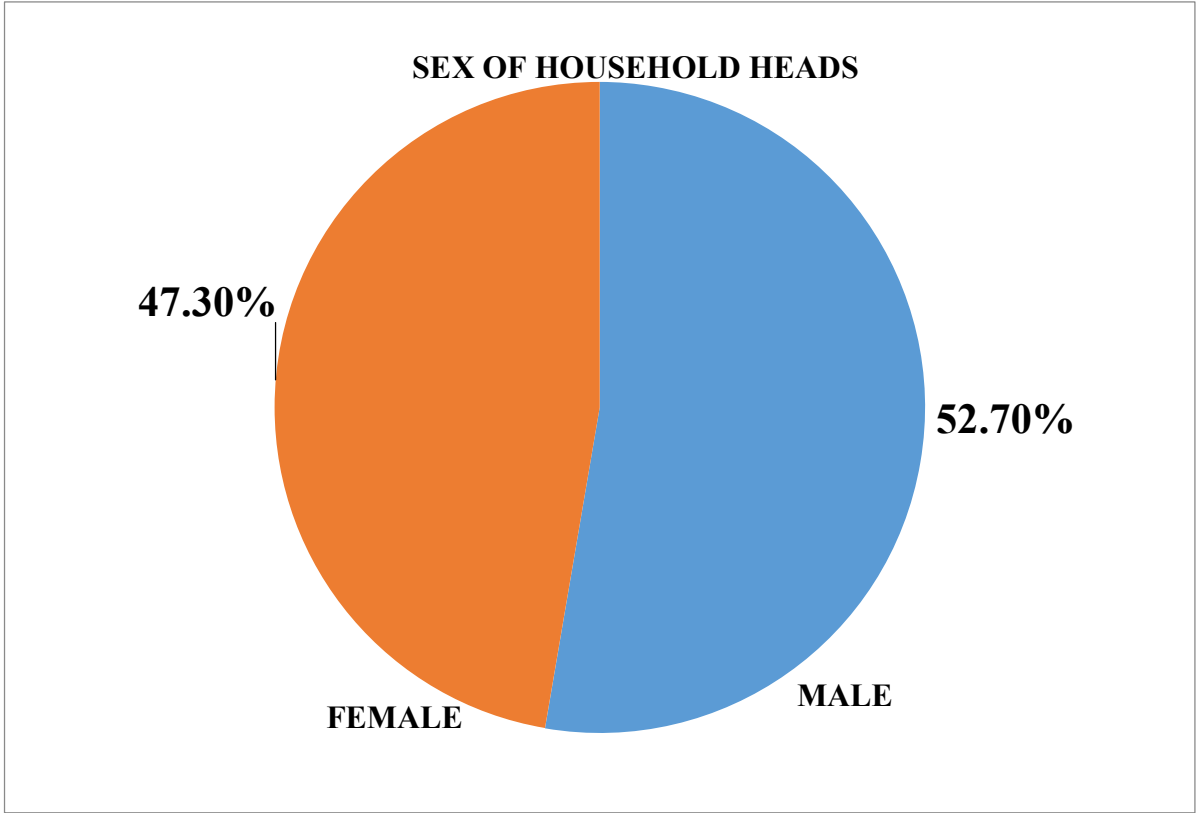


Figure 6: Distribution of household heads by sex

5.1.2 Marital status

Marriage is one of the important cultural values cherished in the society, especially in the rural areas where there is high dependency on family as source of labour. Result of the analysis on Figure 7 reveals that most (70.4%) of the household heads were married. This result shows that marriage is considered important among rural households and an indication of great relevance attached to marriage in Africa, particularly in the rural setting. The figure further indicates that 20.4% were single while only 5.2% and 4.0% were divorced and widowed respectively. This is supported by Fakayode, *et al.* (2011) who stated that not less than 70% of the rural household heads are married. Ekong (2003) also opined that marriage facilitates farming activities in rural areas because it creates access to unpaid labour. Farmers usually crave for this because it will reduce their cost of production thereby increases their purchasing power vis- a- vis socio-economic status.

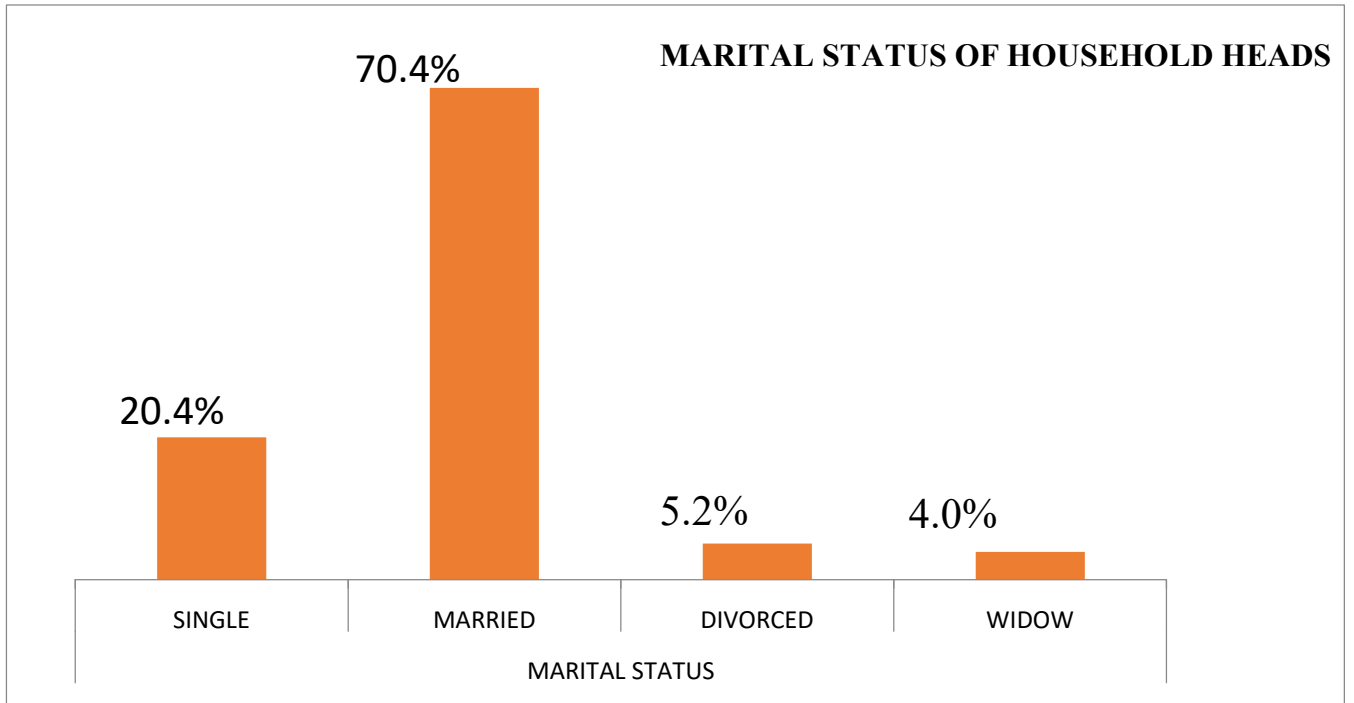


Figure 7: Distribution of household heads by marital status

5.1.3 Religion

Figure 8 indicates that majority (65.2%) of the respondents were Christians, 31.1% were Muslims while only 3.7% were traditional worshippers. The result shows high religious inclination by the respondents in the study area, which could be as a result of moral responsibilities by churches and mosques through provision of basic amenities like water facilities in the community. The implication of this is that irrespective of the religion of the respondents, they were involved in one livelihood activity or the other. This can also determine the extent of use of available infrastructure and their level of socio-economic status.

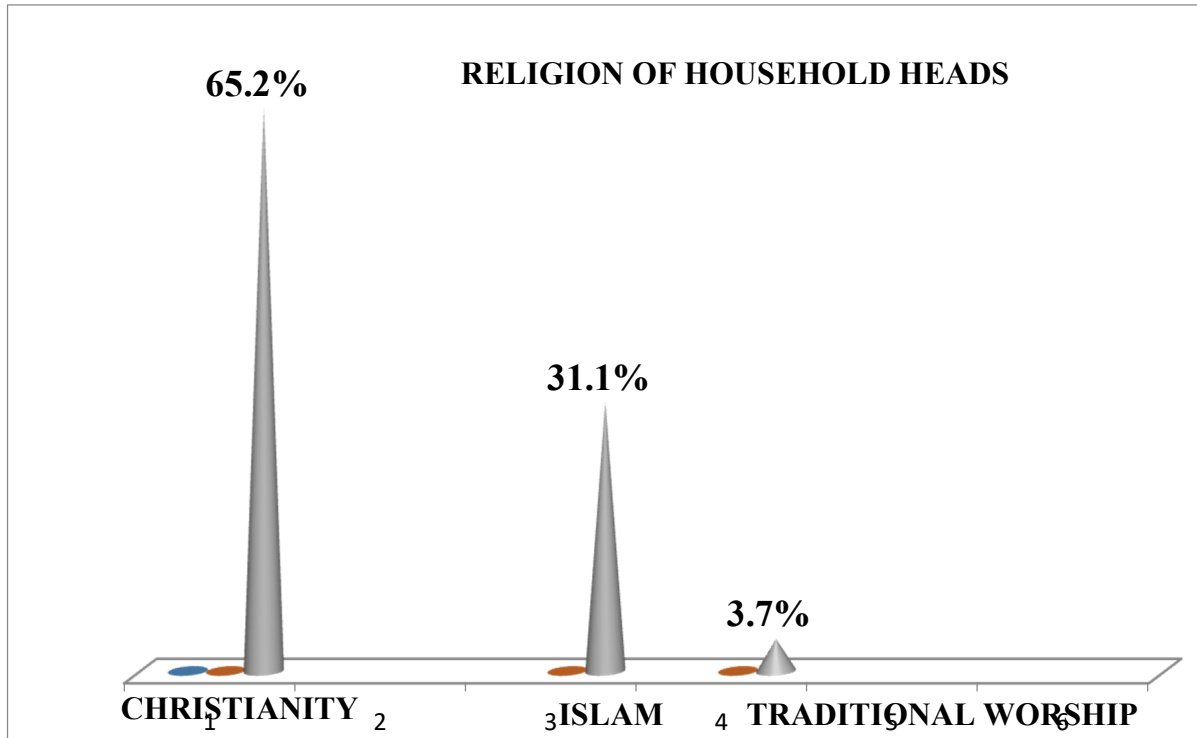


Figure 8: Distribution of respondents by religion

5.1.4 Primary occupation

Figure 9 shows the distribution of respondents according to their primary occupation. Almost half (49.0%) of the respondents were engaged in farming while only 22.3% were salary earners. This is in consonance with Babatunde and Quaim (2009) who reported that majority of the household heads still diversify into other non-farming activities. In addition, 49.0% being farmers is in line with the report of Ewebiyi (2014) as well as Thomas and Adebessin (2014) who found that farming is the principal occupation of many rural dwellers. The implication of this is that though many studies advocate livelihood diversification, farming still remains their primary occupation. This is because adequate infrastructure, which could position them favourably for diversification is not readily available. This made agrarian community of people who find it difficult to diversify their means of livelihood and they are unable to generate more income which consequently translates into low purchasing power and invariably people of low socio-economic status. This was the view of some of the participants in one of the FGD sessions about farming as an occupation:

“Farming is our major occupation; there is nobody in this community no matter how he is committed to any other livelihood activities he must involve in farming, because if he fails to do so whatever he realised from that job will be spent on food.” (59 year old female discussant, Oke- Bola community, Ayedaade LGA, Osun state: May, 2018)

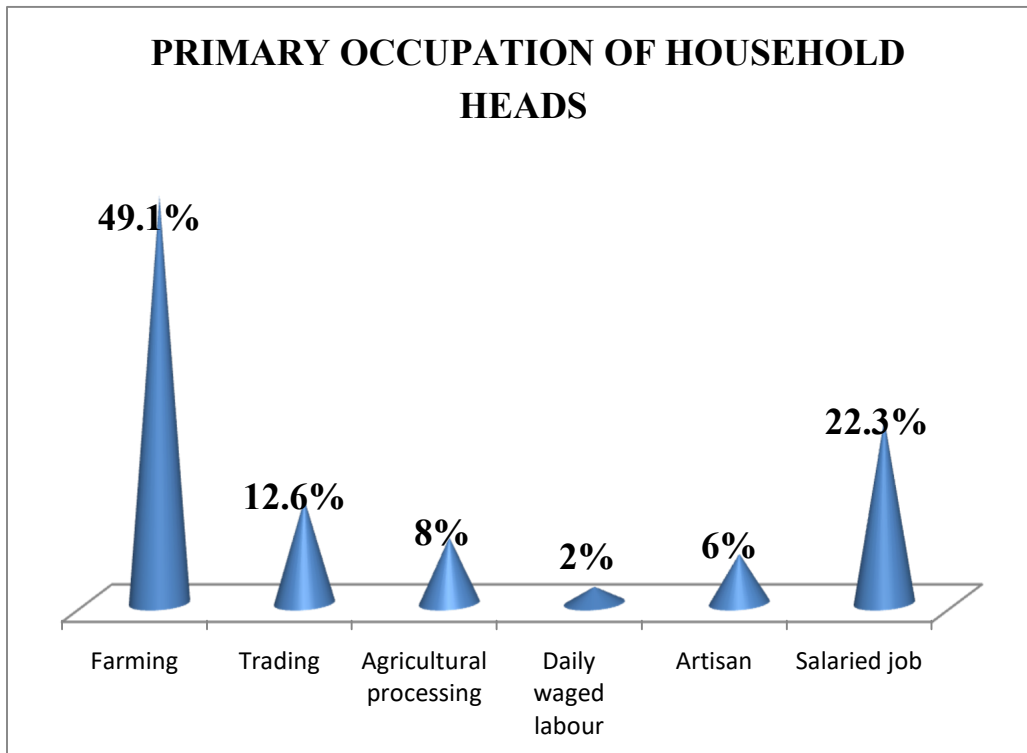


Figure 9: Distribution of household heads by primary occupation

5.1.5 Secondary occupation

Figure 10 reveals that 55.7% of the respondents still indicate farming as their secondary occupation, 21.3% were traders, 8.0%, were agricultural processors and 6.3% were artisans. This result is in tandem with Adeleke (2018) who also found out that some respondents involve in other activities like agricultural processing, trading and others as their secondary occupation through which they also generate income. It also agrees with the report of Abiodun (2012) who reported that 21.4% were traders while 4.2% were salary earners.

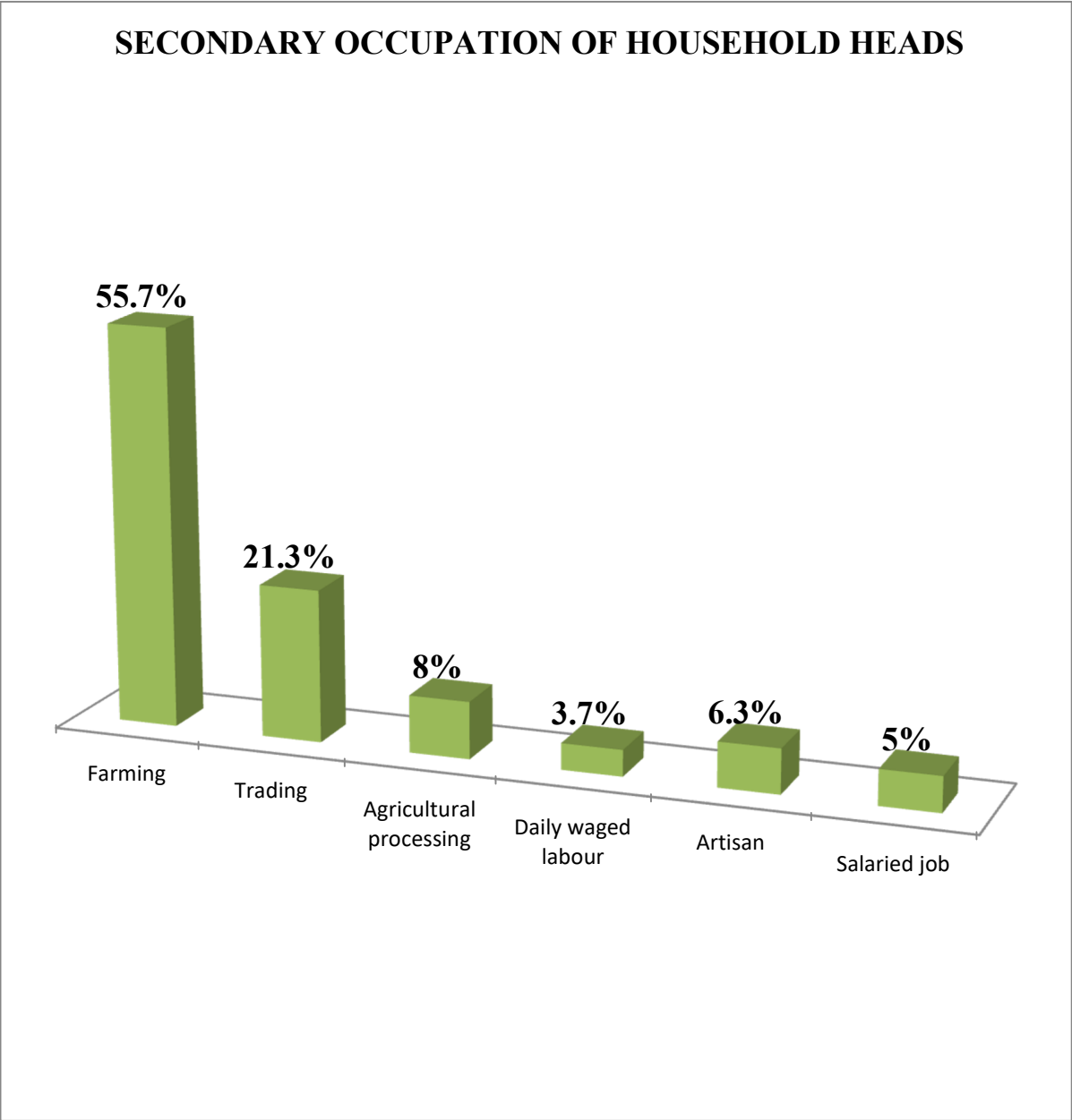


Figure 10: Distribution of respondents by secondary occupation

5.1.6 Social groups

Social group is the collection of group of people that share certain characteristics, interact with one another, accept expectation and obligations as member of the group, and share a common identity (Adu-Gyanfi and Nketsia-Tabir, 2007).

Result in Figure 11 reveals that respondents in the study areas belong to one association or the other. Half (52.1%) were members of cooperative societies, 42.7% were members of religious groups while 28.4% and 21.3% belonged to membership of associations and age groups, respectively. Eforuoku (2018) supported this finding by reporting that rural dwellers belong to different religious and membership of association. Social interaction influences rural dwellers' participation including their livelihood activities. According to Adu-Gyanfi *et al* (2007), group participation is an avenue through which small scale farmers establish and present their needs. Therefore, it is seen as an inevitable tool for any development intervention.

The implication of 52.1% of the respondents belonging to cooperative societies with proper accounting, record keeping, accessibility to funds and efficient loan repayment might likely afford them the opportunity to be financially buoyant. This will enable them to purchase those facilities they could afford such as processing and storage facilities and this could increase their income thereby improve their socio-economic status. More so, 42.7% of respondents being members of religious group were as a result of high inclination to their religious belief and likely moral responsibility of churches and mosques in provision of certain infrastructure.

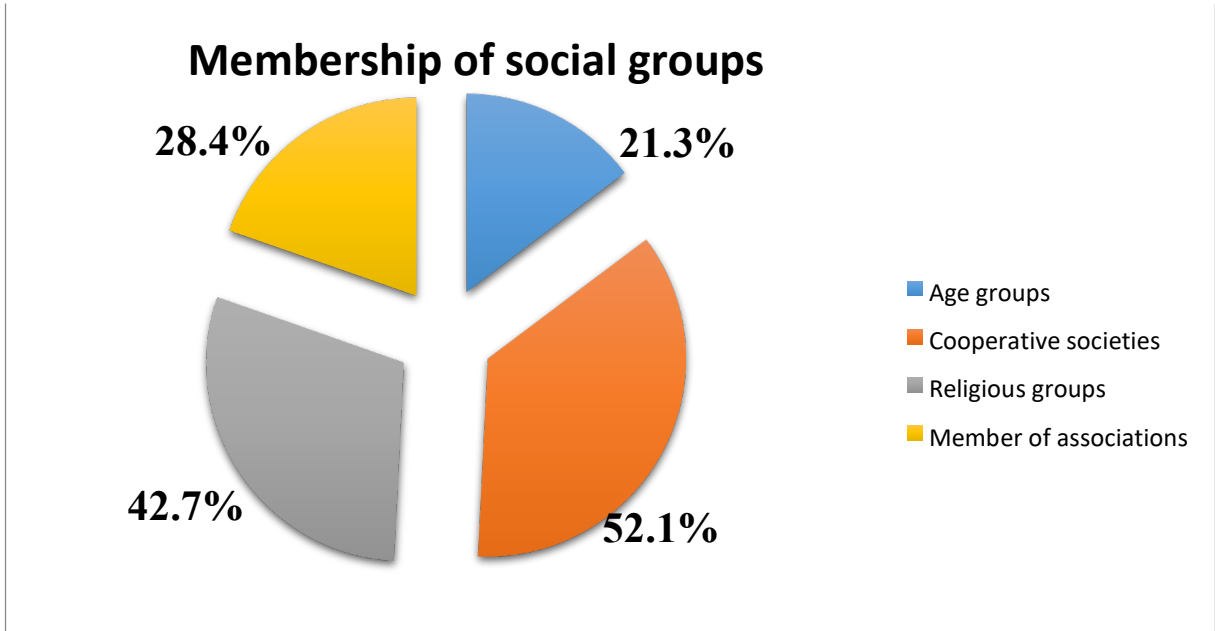


Figure 11: Distribution of household heads by membership of social group

5.1.7 Position in the social groups

The study reveals from figure 12 that 13.2% of the respondents were leaders of different social groups, 27.0% were executive members, 18.6% belonged to one committee or the other while (41.0%) were ordinary members. This finding is corroborated by Adu-Gyanfi *et al* 2007 who opined that membership association provides a network of connection among farmers that can lead to mutual commitment. The implication of this is that their mutual commitment may proffer community development efforts which could lead or translate to provision of community-based infrastructure in order to enhance their livelihood activities and improve their socio-economic status.

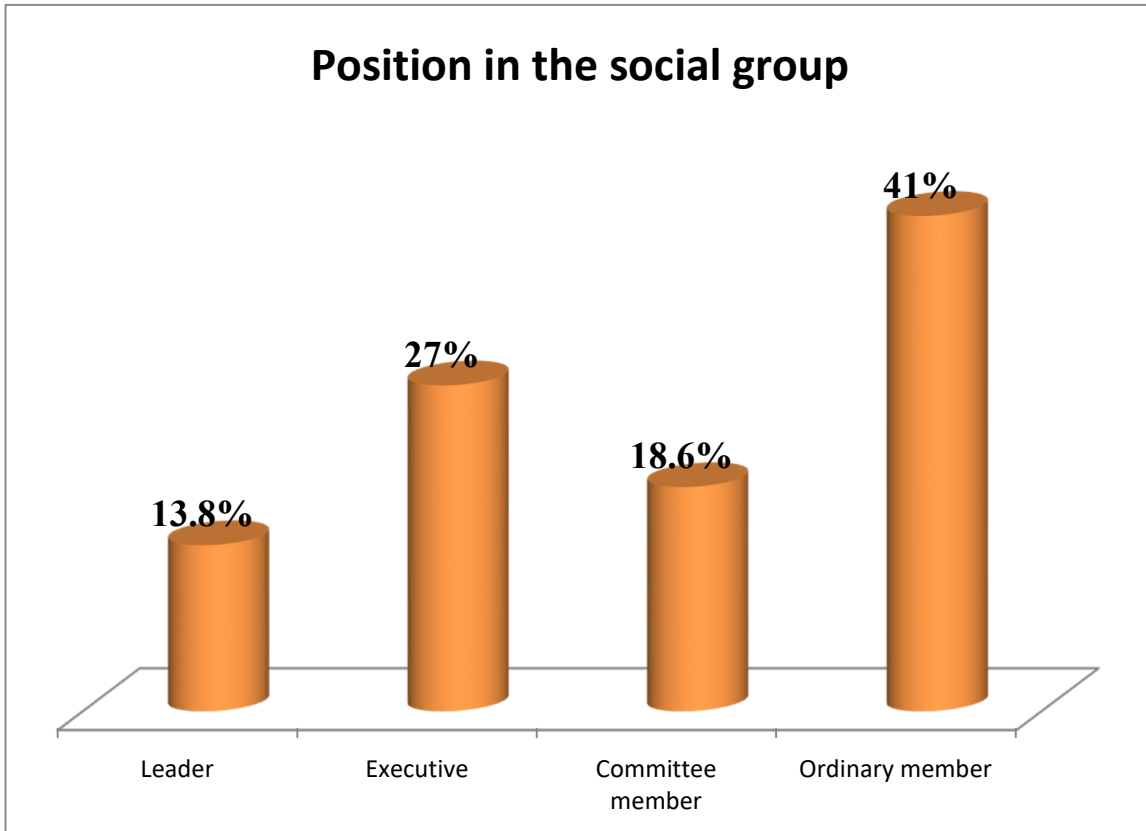


Figure 12: Distribution of household heads by position in the social group

5.1.8 Age

Table 5.1 reveals that 40.6% of the household heads age range between 31 and 45 years with a mean age of 43.3 ± 13.0 years. This corroborates the findings of Akinbile 2007 and Abiodun (2012) that the average age of most household heads in rural areas was 45.2years. This is an indication that these household heads were still agile and this can help them to boost their productivity (Onyegbula and Oladeji, 2017). Bawa, Donye and Nuhu (2010) and Ogunbameru (2001) were also of the opinion that youths were very productive in agriculture and other livelihood activities. The respondents' active years would position them to favourably involve in different livelihood activities. The involvement may likely result in high concentration in the use of available infrastructure because age is an important element when it comes to choosing the type of livelihood activity an individual is engaging in. This is expected to have overwhelming effects on their socio-economic status and is in consonance with Oyesola (2007) that infrastructure is a function of productive livelihood activities.

5.1.9 Year of formal education

Table 5.1 shows that 35.1% of the respondents had primary education, 27.6% had tertiary education and 23.9% had secondary education. Majority (86.6%) of the respondents with formal education is in line with the observation of Bature, Sanni and Adebayo(2013) who equally reported that most rural dwellers had formal education. The result corroborates Adeleke (2018) who reported that respondents in Oyo State had high formal education. This may unavoidably assist the respondents in handling the available infrastructure for their livelihood activities to improve their socio-economic status.

5.1.10 Household size

Table 5.1 reveals that majority (70.4%) of the respondents had household size ranging between 5 and 8 persons, while 20.7%, 6.0%, 2.9% also had household sizes of 1-3, 9-12, >12 members respectively. This is supported by the findings of Adepoju and Obayelu (2013) who discovered the average household size stood at 6.1 ± 2.6 , which according to Yekinni (2010) depicts a fairly large family. This indicates that the study area comprises respondents with large family members. There is therefore an opportunity for household heads to diversify their livelihood activities. This may mean high dependence on the available

infrastructure, increase in income sources if all members are working and contributing to household welfare thereby improving their socio-economic status (Edna, Mathew and Adesope 2007). This opinion corroborates the submission of Adegbite and Oluwalana (2004) and Buvinic (1991) who reported that there is a likelihood of sustainable labour efficiency on the farm to depend on household size.

Table 5.1: Distribution of respondents based on their personal characteristics (N=348)

Variables	Categories	Frequency	Percentage
Age (Years)	15	19	5.4
	16 – 30	50	14.4
	31- 45	140	40.2
	46- 60	100	28.7
	61- 75	35	10.0
	Above 75	4	1.1
Mean age		43.3 ± 13.0	
Years of formal education	No formal education	47	13.4
	Primary education	122	35.1
	Secondary education	83	23.9
	Tertiary education	96	27.6
	Mean	10.8±5.73	
Household size	1-4	73	20.7
	5-8	244	70.4
	9-12	21	6.0
	Above 12	10	2.9
	Mean	6.02 ±2.39	

***Multiple responses**

Source: Field survey, 2017

5.2 Enterprise characteristics of respondents

5.2.1 Years of experience in the enterprise

Table 5.2 shows that 54.9% of household heads had spent up to 10 years in their choice of enterprise with a mean of 13.4 ± 1.04 . Also 26.4% had spent between 11-20 years while only 4.9% spent 51-60 years. This may likely be due to the fact that many of the respondents have stayed long in the study area. Those who had spent longer years are the aged among them. This implies that majority would need infrastructure to pursue their livelihood activities for improvement in their socio-economic status.

5.2.2 Number of persons used in labour

This is the number of people who are available for work in relation to the number of enterprises available. Table 5.2 shows that 57.2% of household heads engaged 1-4 persons, 26.7%, 4.9% and 3.2% of the respondents also used 5-8, 9-12 and >12 persons on the farm for labour respectively. The mean number of persons used in labour was 4.3 ± 3.87 . It can be deduced that the respondents engaged relatively average number of people on their farm.

This could be due to the level of their socio-economic status.

5.2.3 Monthly income of respondents

Table 5.2 also indicates the distribution of respondents' monthly income. Very few (34.2%) of the respondents earned less than ₦10,000 per month with mean income of $₦18,728.53 \pm ₦9,870.87$ while only 28.4% earned above ₦50,000. This result shows that the monthly income of respondents in the study area was low. This is supported by Ellis 2000 who discovered that the income level of respondents is very low because farming is still their main livelihood activities.

This result is also consistent with that of Oyesola and Ademola (2011) in Ewebiyi 2014 who reported low income among rural households in Osun State. This implies that the respondents would not have enough money to purchase production assets to pursue their livelihood activities. Therefore, meeting developmental needs such as provision of

infrastructure should be advocated for farm families in such a way that it would assist them to improve their income generating activities so that their socio-economic status would be enhanced.

The statement of a participant in FGD supports this:

“I am a low income earner and I am still praying to God to lift me up because for a whole year I may not realise more than ₦40,000. (72year old male discussant, Olufi community, Ayedaade LGA, Osun State)”

5.2.4 Worth of enterprise in Naira

The worth of an enterprise is the value of that enterprise in monetary term. The result from Table 5.2 shows that 27.3% of household heads had the worth of their enterprise to be less than ₦50,000. This is assumed very low considering the present economic situation of the nation. The indication of this is that most of the rural dwellers are peasant farmers with low socio-economic status. They do not have enough purchasing power and this might prevent livelihood diversification.

Table 5.2 Distribution of respondents' enterprise characteristics

Variables	Categories	Frequency	
Percentage			
Years of experience in the enterprise (Years)	Less than equal to 10	191	54.9
	11-20	92	26.4
	21-30	38	10.9
	31-40	20	5.7
	41-50	7	2.1
	Mean	13.4 ± 10.4	
	Number of persons Used in labour	1-4	199
5-8		93	26.7
9-12		17	4.9
Above 12		11	3.3
Mean		4.3±3.8	
Average income per Naira (₦)		Less than equal to ₦10,000	119
	10,001 – 20,000	24	6.9
	20,001 – 30,000	31	8.9
	30,001 – 40,000	27	7.8
	40,001 -- 50,000	48	15.8
	Above ₦50,000	99	28.4
	Mean	₦18,728:53 ± ₦9,870:87	
Worth of enterprise in Naira (₦)	Less than equal to ₦50,000	95	27.3
	50,001 – 100,000	40	11.5
	200,001-300,000	39	11.2
	300,001- 400,000	21	6.0
	400,001- 500,000	34	9.8
	Above 500,000	79	22.7
Mean	₦57,032: 64±₦12,177:23		

***Multiple responses**

Source: Field survey, 2017

5.2.5 Types of labour used for livelihood activities

Labour is the physical work done in relation to the type of enterprise to be carried out. The result of the analysis on Figure 13 reveals that 44.3% of the respondents employ the services of hired and family labour while 34.4% and 21.3% make use of family and hired labour respectively. The result shows that family labour alone could not supply the needed demand for labour on the farm; therefore, majority had to augment family labour with hired labour. However, 21.3% used hired labour only; this could be attributed to the fact that many of the family members especially the youths are leaving farming activities for white-collar job. They were also engaged in other means of livelihood activities such as okada riding, trading among others, leaving only the aged and the women in farming activities. This might be due to inadequate provision of basic infrastructure. This is in line with the study of Francis (2011) that off-farm activities were dominated by prime age persons in the household. The implication is that there would be less family labour supply to work on the farm when compared to hired labour as long as larger household members are working off farm. This would affect their income due to the high cost of hired labour employed. Increase in the cost of labour would increase production cost and consequently a reduction in the profit; this would reduce their purchasing power and eventually results in low socio-economic status of the respondents.

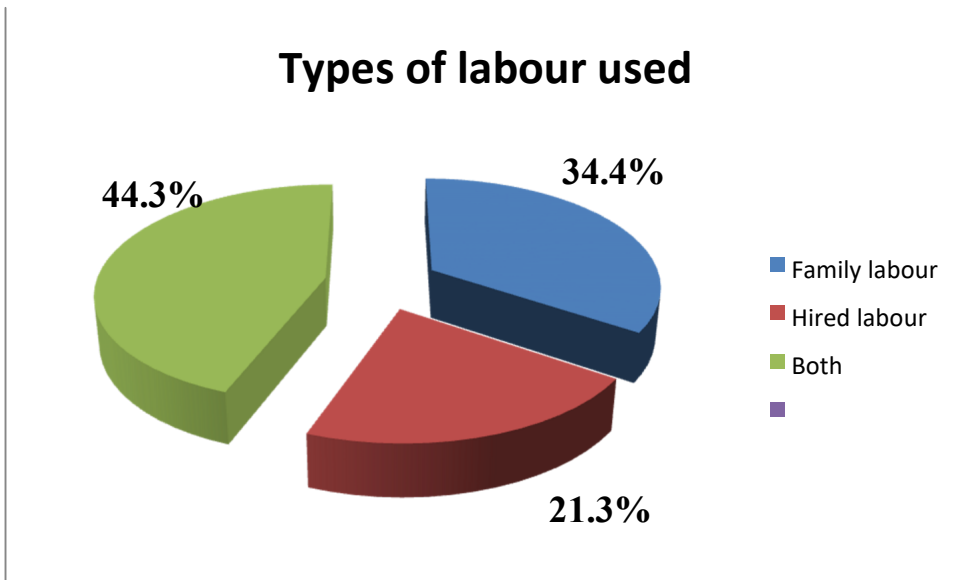


Figure 13: Distribution of household heads by types of labour used

5.3 Availability of infrastructure to respondents

Availability of infrastructure especially in the rural area is a pre-requisite for the development of rural economy and a measure to improve the productivity of rural dwellers. The presence or absence of infrastructure to a great extent has impact on the livelihood activities of the rural community. Infrastructure as conceptualised in this study are those basic facilities such as roads, health facilities, processing facilities, energy sources among others that are needed/required for economic, social and financial development of an individual or family within the rural areas.

Table 5.3 which reveals 67.0%, 69.5%, 75.0%, and 97.7% of the respondents were of the opinion that crib, silo, rhombus, and cold room were not available respectively. The case of processing facilities was also not different as respondents also signified that soaking container (40.8%), roasting equipment (42.8%), dryer (48.6%) and sheller (56.6%) were also not available. This is in line with the findings of Egbetokun (2009) who reported that standard storage facilities were not in existence in rural areas as some of the respondents stored their agricultural produce under their roof while some stored in basket and many did not have any means of storing their produce. The implication of this is that there would be wastage of produce, glut, low price during harvest and scarcity during off season. A participant during FGD reported that:

“Where I kept my corn last year they were destroyed by rat because I didn’t have storage facilities and that was what made me to suffer. Even many times we sell at very cheap price because if we refuse to sell them, they will spoil due to lack of storage facilities. (45year old male discussant, Oke-Bola community, Ayedaade LGA, Osun state, May, 2017)

Boreholes (59.8%), electricity (63.2%), rural health centres (72.1%), roads (80.9%) community markets (83.3%) were reported to be available as public infrastructure by the respondents. The probable reason for this might be the past intervention of governments’ programmes on rural development in the states, especially the Directorate of Food, Roads

and Rural Infrastructures (DFRRI), Rural Electrification Project (REP), Local Economic Empowerment and Development Strategy (LEEDS), Local Empowerment and Environmental Management Programme (LEEMP), Fadama II, among others. Half (50.3%) of the respondents agreed that television, radio (52.9%) and mobile phone (57.2%) were available to them as private facilities. This implies that even though rural dwellers were tagged with low socio-economic status, most of them can still afford to purchase assets especially those that are used in the area of production and communication. Communication asset is necessary because information is an important tool which can afford the respondents timely economic opportunities that can help them to be engaged in more profitable livelihood activities that can enhance improved socio-economic status. Also, irrigation facilities such as sprinkler (67.8%), sub-surface (70.1%) and manual irrigation (52.0%) were indicated by most of the respondents as not available. This was one of the major reasons, why off-season farming is not commonly practiced in this part of the world as against commercial agriculture that is practiced in some other countries. One of the FGDs conducted revealed this:

Another one also said that we are unable to do dry season farming because there are no irrigation facilities” (36year old male discussant, Olufi Community, Ayedaade LGA, Osun State).

Market ($\bar{x} = 1.33$), health ($\bar{x} = 1.26$) and communication ($\bar{x} = 1.15$) facilities were the most available infrastructure in the study areas. This implies that market facilities are likely to be readily available to the rural dwellers in that community. The reason for this might be the presence of different non-governmental organisations (NGOs) who are also involved in the development of rural areas. Availability of market facilities will afford them the opportunity to sell their produce on time, while that of health facilities will help in improving the health condition in the provision of adequate farm labour. In the same vein, since communication serves as a means of advertisement, which is tagged business medicine, there is the likelihood of rural dwellers being adequately informed about production and marketing of their produce/ goods at appropriate time.

The essence of produce storage is to enhance availability during scarcity, this could facilitate higher or reasonable price of their produce and boost their purchasing power/income. However, this is not true in most rural areas because storage facilities through which they can achieve these are grossly inadequate and not available. On the other hand, the study noted that storage ($\bar{x} = 0.25$) and irrigation ($\bar{x} = 0.57$) facilities as well as portable water source ($\bar{x} = 0.58$) were not available in the study area. Conclusively, the study also reported that processing facilities ($\bar{x} = 0.76$), transportation facilities ($\bar{x} = 1.02$) and energy source ($\bar{x} = 1.04$) were available but they were inadequate and this could also have effects on the socio-economic status of the respondents.

Table 5.3: Distribution of respondents according to availability of infrastructure

Infrastructure	Public		Private		Not Available		Mean	Category	Rank
	Freq.*	%	Freq.	%	Freq.*	%		Mean	
Market facilities									
Household market	137	39.4	120	34.5	91	26.1	0.79		
Village market	247	71.0	145	12.9	56	16.1	1.84		
Community market	290	83.3	36	10.3	22	6.3	1.77	1.33	1st
Road side market	220	63.2	79	22.7	49	14.1	1.49		
Lock up shops	102	29.3	140	40.2	106	30.5	0.99		
Stalls	122	35.1	138	39.7	88	25.3	1.10		
Health facilities									
Rural health care	251	72.1	29	8.3	68	19.5	1.55		
Standard government hospital	226	64.9	38	10.9	84	24.1	1.41		
Private hospital	76	21.8	204	58.6	58	19.5	1.02	1.26	2nd
Maternity centre	230	66.1	59	16.4	61	17.5	1.49		
Herbal centre	65	16.7	151	43.4	132	37.9	0.81		
Communication facilities									
Mobile phone	121	34.8	199	57.2	27	7.8	1.27		
Radio	135	38.8	184	52.9	29	8.3	1.30	1.15	3rd
Television	124	35.5	175	50.3	49	14.1	1.22		
Newspaper	106	30.5	75	31.6	167	48.0	0.82		
Energy sources									
Coal	81	23.3	188	54.0	79	22.7	1.00		
Firewood	116	33.3	199	57.2	33	9.5	1.24		
Solar	75	21.6	48	13.8	225	64.7	0.57	1.04	4th
Electricity	220	63.2	49	14.1	79	22.7	1.41		
Generator	58	16.7	218	62.6	72	20.7	0.96		
Transportation facilities									
Road	281	80.9	84	24.1	38	10.9	1.86		
Railway	63	18.1	28	8.0	257	73.9	0.44	1.02	5th
Water	113	32.5	39	11.2	195	56.0	0.76		
Processing Facilities									
Milling machine	10.3	49.6	134	38.5	111	31.9	0.98		
Roasting equipment	64	18.4	135	38.8	149	42.8	0.76		
Soaking container	52	14.9	154	44.3	142	40.8	0.74	0.76	6th
Dryer	63	18.1	116	33.3	169	48.6	0.70		
Shelter	67	19.3	84	24.1	197	56.6	0.63		
Water source									
Well	154	44.3	167	48.0	26	7.6	1.36		
Tap	143	41.1	55	15.8	150	43.1	0.98		
Borehole	208	59.8	73	21.0	67	19.3	1.41	0.58	7th
Stream	18	5.2	2	0.6	328	99.3	0.11		
Irrigation facilities									
Sprinkler	50	14.4	55	15.8	243	67.8	0.45		
Sub-surface	47	13.5	57	16.4	244	70.1	0.43	0.57	8th
Manual	86	24.7	81	23.3	181	52.0	0.73		
Storage facilities									
Crib	62	17.8	53	15.2	233	67.0	0.51		
Silo	55	15.6	51	14.9	242	69.5	0.46		
Rhombus	51	14.7	36	10.3	261	75.0	0.40		
Barn	62	17.4	109	31.3	177	50.0	0.67	0.25	9th
Cold room	2	0.6	3	0.9	343	98.6	0.02		
Store	-	-	8	2.3	340	97.7	0.02		

* Multiple responses *Source: Field survey, 2017*

5.4 Status of available infrastructure

Condition of infrastructure though present in a community, cannot be over emphasised because its condition goes a long way in determining the productivity level of rural livelihood. For instance, good road will promote easy evacuation of farm produce to urban centres among others.

Table 5.4 reveals that 55.2% of respondents adjudged the condition of road as fair; storage and processing facilities were adjudged by 36.5% and 37.1% of the respondents as poor and fair respectively. In the same vein, water sources like borehole (47.1%) and tap water (32.8%) were indicated by respondents as fair and well was assessed by 52.3% of the respondents as good. More than half (58.0% and 50.0%) of the respondents indicated that mobile phone and radio are in good condition respectively. Also from the table, it was revealed that respondents indicated these market facilities: stalls (44.0%), lock up shops (44.8%), household market (47.7%), village market (52.0%) and roadside market (55.7%) are in fair condition while 47.7% rated community market as good; this may be possible through community efforts and participation in the development of rural areas. However, 37.1% and 32.5% of the respondents were of the opinion that the state of electricity and solar power as energy sources are poor respectively, while 49.7% rated the use of generator as fair. In an FGD session in Osun State, participants were of the opinion that:

“Electricity is on and off and as such not reliable and we cannot involve in businesses that require electricity. (41year old female discussant, Eruwa Community, Ibarapa East LGA, Oyo state. June, 2018).

This result shows the true picture of rural areas especially in Nigeria where typically in a month; electricity may be available only for twenty four consecutive hours, a situation that makes life in the rural areas difficult and unattractive to the youths. It also makes rural dwellers to remain as low income earners such that they cannot afford even the cheapest generating sets to illuminate their homes at night or to power small scale businesses. This result confirms the findings of Okali *et al* (2001) and Olawoye (2002) that the present

situation of infrastructure provided by past government across the ecological zones of Nigeria do not promote transformation of rural economy that can improve socio-economic status of rural dwellers.

Furthermore, conditions of health facilities such as herbal centres (44.8%), rural health centres (45.1%), government hospitals (50.6%), maternity centres (52.9%) and private hospitals (55.2%) were indicated by the respondents as fair. In an FGD session in Araromi ward in Osun State, participants were of the opinion that:

“The present conditions of the facilities are just manageable due to the fact that drugs were not available, nurses were not enough and there were no doctors at all. The hospital we have here is not good but manageable because there are no facilities and no qualified personnel”
(52year old male discussant, Obagun Community, Ifelodun LGA, Osun State)

Table 5.4: Distribution of respondents according to status of available infrastructure

Infrastructure	Good	Fair	Poor	Mean	Category	Rank			
Communication facilities									
Mobile phone	202	58.0	113	32.5	33	9.5	1.91		
Radio	174	50.0	136	39.1	38	10.8	2.33		
Television	134	38.5	140	40.2	74	21.3	2.17	2.04	1 st
Newspaper	69	19.8	104	29.9	175	50.3	1.70		
Energy Sources									
Coal	154	44.3	122	35.1	72	20.7	2.24		
Firewood	31	66.4	77	22.1	40	11.5	2.55		
Solar	47	13.5	76	21.8	225	64.7	1.49	1.99	2 nd
Electricity	56	16.1	126	36.2	166	47.9	1.68		
Generator	83	23.9	173	49.7	92	26.4	1.97		
Market Facilities									
Household market	113	32.5	166	47.7	69	19.8	2.13		
Village market	108	31.0	181	52.0	59	17.0	2.14		
Community market	66	47.7	141	40.5	41	11.8	2.38	1.95	3 rd
Road side market	74	21.3	194	55.7	80	23.0	1.38		
Lock up shops	68	19.5	156	44.8	124	35.6	1.04		
Stalls	66	19.0	153	44.0	129	37.1	1.82		
Health Facilities									
Rural health centre	109	31.3	157	45.1	82	23.6	2.03		
Standard government hospital	82	23.6	176	50.6	89	25.6	1.22		
Private hospital	94	27.0	192	55.2	62	17.8	2.09	1.85	4 th
Maternity centre	99	28.4	184	52.9	65	18.7	2.09		
Herbal centre	46	13.2	156	44.8	146	42.0	1.71		
Processing facilities									
Milling machine	82	23.6	155	44.5	111	31.9	1.92		
Roasting equipment	52	14.9	160	46.0	136	39.1	1.76		
Soaking container	72	20.7	146	42.0	130	37.4	1.40	1.83	5 th
Dryer	99	28.4	94	27.0	155	44.5	1.84		
Sheller	72	20.7	98	28.0	178	51.1	1.69		
Water Sources									
Well	182	52.3	125	35.9	41	11.8	2.41		
Tap	65	18.7	114	32.8	169	48.6	1.70	1.73	6 th
Borehole	103	27.6	104	47.1	80	23.0	1.77		
Stream	8	1.7	11	3.2	331	95.1	1.08		
Transport facilities									
Road	98	28.2	192	55.2	58	16.7	2.09		
Railway	36	10.3	60	17.2	252	72.4	1.38	1.71	7 th
Water	83	23.9	62	17.8	203	58.3	1.66		
Irrigation facilities									
Sprinkler	41	11.8	76	21.8	231	66.4	1.45		
Sub surface	29	8.3	88	25.3	231	66.4	1.43	1.51	8 th
Manual	65	18.7	90	25.9	194	55.7	1.64		
Storage facilities									
Crib	49	14.1	83	23.9	216	62.1	1.52		
Silo	37	10.6	77	22.1	234	67.2	1.43		
Rhombus	32	9.2	66	19.0	250	71.8	1.37	1.41	9 th
Barn	75	21.6	82	23.6	191	54.9	1.67		
Store	4	1.1	7	2.0	337	96.8	1.04		

Multiple responses

Source: Field Survey, 2017

5.5.1 Accessibility of respondents to infrastructure

Accessibility to infrastructure refers to the ability of an individual(s) to be able to reach or use an infrastructure. Involvements of household heads in different livelihood activities that can translate into improved socio-economic status depend largely on accessibility of the household to infrastructure (Thomas *et al*, 2014). The study reveals respondents' accessibility to various infrastructure. According to the survey, Table 5.5 reveals that more than two-third of the respondents signified that storage facilities such as crib (64.0%), silo (64.9%), and rhombus (70.1%) were not accessible at all. This confirms the experience of farmers when it comes to storage of their produce that due to inaccessibility to infrastructure, especially storage facilities, glut is inevitable. This consequently leads to reduction in price or wastage and this is the one of the main reasons why rural farmers continue to live in poverty which depicts their socio-economic status. Also 40.8 % and 42.5% of the respondents indicated that processing facilities like roasting equipment and dryer were not accessible. This shows that processing activities can only be carried out on a small scale in the study areas. It suggests the reason why rural dwellers carry out agricultural activities on a subsistence level as against commercial agriculture which is on a large scale.

In Table 5.5, respondents were of the opinion that milling machine (42.0%), maternity centre (44.0%), television (45.7%), stall (46.8%), road (50.6%) and electricity (57.9%) were accessible to a lesser extent. The implication of this is that there will be reduction in the number of livelihood activities the respondents can be involved in. This is because the lesser their accessibility to required infrastructure for their livelihood activities, the lesser their involvement and this will not afford them the opportunity to increase their income and improve their socio-economic status.

However, more than two-third of the respondents indicated that they had better or more access to firewood as source of energy (72.1%), well water (67.0%), village market (51.4%), community market (63.5%) and radio (56.3%). In conclusion, accessibility to storage facilities ranked the lowest (9th) with the mean of 0.42 while communication facilities ranked (1st) with the mean of 1.32. This reveals that rural areas are not out rightly deserted, there are certain infrastructure that are in existence and inadequate. This is supported by the findings of Oyesola (2007) who stated that there is provision of infrastructure but insufficient.

Table 5.5 Distribution of respondents' accessibility to infrastructure

Infrastructure	To a large extent		To a lesser extent		Not at all		Mean	Category Mean	Rank
	Freq.	%	Freq.	%	Freq.	%			
Communication facilities									
Mobile phone	258	74.1	61	17.5	29	8.3	1.66	1.32	1st
Radio	196	56.3	131	37.6	21	6.0	1.50		
Television	128	36.8	159	45.7	61	17.5	1.19		
Newspaper	62	17.8	116	33.9	168	48.3	0.69		
Market facilities									
Household market	150	43.1	139	39.9	59	17	1.26	1.21	2nd
Village market	179	51.4	128	36.8	41	11.8	1.40		
Community market	221	63.5	101	29.0	26	7.5	1.56		
Lock up shops	80	23.0	161	46.3	107	30.7	0.92		
Stalls	71	20.4	166	47.7	111	31.9	0.89		
Health facilities									
Rural health centre	171	49.1	116	33.3	61	17.5	1.32	1.11	3rd
Standard government hospital	116	33.3	139	39.9	93	26.7	1.07		
Private hospital	113	32.5	156	44.8	79	22.7	1.10		
Maternity centre	138	39.7	153	44.0	57	16.4	1.23		
Herbal centre	68	19.5	153	44.0	127	36.5	0.83		
Energy source									
Coal	149	42.8	143	41.1	56	16.1	1.27	1.08	4th
Firewood	251	72.1	70	20.1	27	7.8	0.92		
Solar	61	17.5	83	23.9	204	58.6	0.59		
Electricity	61	17.5	200	57.9	87	25.0	1.50		
Generator	83	26.7	170	48.9	85	24.4	0.57		
Water source									
Well	233	67.0	67	25.0	28	8.0	1.53	0.90	5th
Tap	71	20.4	132	37.9	145	41.7	0.79		
Borehole	123	35.3	163	46.8	62	17.8	1.20		
Stream	14	4.0	2	0.6	332	93.4	0.09		
Processing facilities									
Milling machine	104	29.9	146	42.0	98	28.2	1.02	0.83	6th
Roasting equipment	66	19.0	140	40.2	142	40.8	0.78		
Soaking container	83	23.9	121	34.8	144	41.4	0.82		
Dryer	78	22.4	122	35.1	148	42.5	0.80		
Sheller	81	23.3	92	26.4	175	50.3	0.64		
Transportation facilities									
Road	153	44.0	176	50.6	19	5.5	1.39	0.81	7th
Railway	36	10.3	59	17.0	253	72.7	0.38		
Water	88	25.3	66	19.0	194	55.7	0.70		
Irrigation facilities									
Sprinkler	39	11.2	63	18.1	246	70.7	0.41	0.53	8th
Sub surface	50	14.4	58	16.7	240	69.0	0.45		
Manual	83	23.9	83	23.9	162	52.3	0.72		
Storage facilities									
Crib	48	13.8	74	21.3	228	64.0	0.49	0.42	9th
Silo	50	14.4	64	18.4	234	64.9	0.47		
Rhombus	39	11.2	65	18.7	224	70.1	0.41		
Barn	72	20.7	84	27.0	182	52.3	0.66		
Store	7	2.0	4	1.1	337	96.8	0.05		

***Multiple responses**

Source: Field Survey, 2017

5.5.2 Categorisation of accessibility to infrastructure

Across the study areas, from the results of the survey as shown in Table 5.6, majority (58.6%) of the respondents indicated a low level of access to infrastructure that could be used for their livelihood activities. The implication of this is that there is lack of adequate access to infrastructure like road, water, health facilities and others. This might create low level of livelihood diversification which could result in discouraging the rural dwellers in involving in different agricultural activities and may consequently lead to low socioeconomic status. This finding is in agreement with Thomas *et al* (2014) that level of access to infrastructure is low in rural areas.

Table 5.6 **Categorisation of respondents based on level of accessibility to infrastructure**

Access to infrastructure	Frequency	Percentage	Max.	Min.	Mean	SD
Low	204	58.6	72.0	5.0	37.2	13.51
High	144	41.4				
Total	348	100.0				

Source: Field survey, 2017

5.6.1 Extent of infrastructure utilization/use

Extent of use of infrastructure shows how large or often a particular infrastructure is used. According to Table 5.7, majority of the respondents agreed that storage facilities like crib (60.3%), silo (66.4%), rhombus (69.6%), barn (52.3%) and store (99.1%), irrigation facilities like sprinkler (77.7%), sub-surface (69.0%) and manual (52.3%) were not used at all. This can be as a result of the unavailability and inaccessibility of infrastructure in the study areas as shown in the findings of Thomas *et al* (2014). However, 34.8% of the respondents rarely used private hospitals; this might be because they were low income earners and were not able to afford high cost of this health facility. This depicts the level of socio-economic status of rural dwellers. This finding is supported by Ajala, Sanni and Adeyinka (2005) that family income is an essential criterion for using modern health care services, as it is very important in determining how much an individual can spend on health care and other expenses related to it.

On the contrary, more than half of the rural household heads opined that they always utilise road (58.6%), firewood (63.2%), well water (66.4%), community market (67.5%) and mobile phone (81.3%). This shows the significance of roads in rural development because provision of transportation facilities in the rural area is an integral part of rural development programme. It serves as a driving force for rural transformation and contributes to poverty reduction by enhancing equity and efficient outcomes. Although, more than half of the respondents (58.1 %) used road in the study areas, however, the roads were not in good conditions. This has made rural transportation difficult, thereby hindering different efforts channeled towards the nations' development leading to various problems (separating a large number of villages in the country from urban centres through which they can obtain very high socio-economic services). This situation has led to low level of income, decline in the quality of life, high rate of poverty and low productivity among rural inhabitants (Aderamo and Mogaji, 2010). Therefore, there is need to keep the existing roads in good condition, construct new feeder roads and establish road maintenance units at local government level.

Also, 81.3% of household heads used mobile phones. This implies that mobile phone has gone a long way in reducing communication gap not only among urban dwellers but rural

households too. More than half (56.0%) of the respondents use radio as a source of information and this agrees with the finding of Ewebiyi (2014) who reported that the use of radio is a popular source of information in South western, Nigeria. Also Farming Matters (2011) reported that radio has been found to be an efficient tool for passing information on issues like farming among others.

Table 5.7 Distribution of respondents' extent of infrastructure utilization/use

Infrastructure	Always		Occasionally		Rarely		Not at all		Mean	Category	Rank
	Freq.	%	Freq.	%	Freq.	%	Freq.	Mean			
Communication facilities											
Mobile phone	283	81.3	34	9.8	8	2.3	23	6.6	2.66	2.00	1 st
Radio	195	56.0	81	22.3	17	4.9	55	15.8	2.00		
Television	132	37.9	112	32.2	26	7.5	78	22.4	1.86		
Newspaper	54	15.4	96	27.6	34	9.6	164	47.1	1.11		
Market facilities											
Household market	168	48.3	104	29.9	25	7.2	51	14.7	2.12	1.97	2 nd
Village market	189	54.3	92	26.4	24	6.9	43	12.4	2.23		
Community market	235	67.5	75	21.6	20	5.7	18	5.2	2.51		
Road side market	106	30.5	137	39.4	53	15.2	52	14.9	1.85		
Lock up shops	85	24.4	120	34.5	47	13.5	96	27.6	1.56		
Stalls	74	21.3	128	36.8	53	15.2	93	26.7	1.53		
Health facilities											
Rural health centre	140	40.2	123	35.3	26	7.5	59	17.0	1.99	1.65	3 rd
Standard government hospital	91	26.1	121	34.8	48	13.8	88	25.3	1.62		
Private hospital	77	22.1	63	18.1	121	34.8	87	25.0	1.37		
Maternity centre	144	32.8	117	38.6	38	10.9	79	20.7	2.02		
Herbal centre	61	17.5	95	27.3	55	15.8	137	39.4	1.23		
Energy source											
Coal	140	40.2	104	29.9	23	6.6	81	23.3	1.87	1.61	4 th
Firewood	220	63.2	72	20.7	11	3.2	45	12.9	2.34		
Solar	49	14.1	50	14.4	40	14.4	199	57.2	0.82		
Electricity	73	21.0	116	33.9	63	16.1	94	27.0	1.48		
Generator	83	23.9	120	34.5	41	11.8	104	29.9	1.52		
Water source											
Well	231	66.4	67	19.3	13	3.7	37	10.6	2.41	1.45	5 th
Tap	63	18.1	108	31.0	50	14.4	127	36.5	1.31		
Borehole	131	37.6	117	33.6	39	11.2	61	17.5	1.91		
Stream	15	4.3	6	1.7	1	0.3	326	93.7	0.17		
Processing facilities											
Milling machine	98	28.2	116	23.3	29	8.3	105	30.2	1.59	1.39	6 th
Roasting equipment	58	16.7	132	37.9	40	11.5	118	33.9	1.37		
Soaking container	77	22.1	119	34.2	33	9.5	119	34.2	1.69		
Dryer	62	17.8	105	30.2	41	11.6	140	40.2	1.26		
Sheller	54	15.5	83	23.9	38	10.9	173	49.7	1.05		
Transportation facilities											
Road	204	58.6	91	26.1	34	9.8	19	5.5	2.38	1.33	7 th
Railway	33	9.5	38	10.9	34	9.8	243	69.8	0.60		
Water	83	23.9	33	9.5	39	11.2	193	55.5	1.01		
Irrigation facilities											
Sprinkler	52	14.9	43	12.4	26	7.5	227	65.2	0.77	0.88	8 th
Sub surface	30	8.6	53	15.2	39	10.9	227	65.2	0.68		
Manual	86	24.7	62	17.8	33	9.5	167	48.0	1.19		
Storage facilities											
Crib	62	17.8	46	13.2	30	8.6	210	60.3	0.89	0.64	9 th
Silo	28	7.5	57	16.4	34	9.8	231	6.4	0.67		
Rhombus	30	8.6	34	9.8	41	11.8	243	6.4	0.57		
Barn	48	13.8	83	23.9	35	10.1	182	52.3	1.00		
Store	7	20.0	2	0.6	1	0.3	338	97.1	0.07		

*Multiple responses

Field Survey, 2017

5.6.2 Categorisation of extent of infrastructure utilization/use

Overall, the results of this study shows that the extent of use of infrastructure among respondents was low (56.0%) as shown in Table 5.8. This might be due to unavailability and inaccessibility of these infrastructure like processing facilities, storage facilities, electricity, irrigation facilities etc in the study area. Ladele, *et al* (2007) stressed that the rural dwellers are located in areas with poor resources, ecological vulnerability and limited infrastructure.

Table 5.8 Categorisation of respondents based on extent of use of infrastructure

Extent of use of infrastructure	Frequency	Percentage	Max.	Min.	Mean	SD
Low	195	56.0	110.0	0.0	58.3	22.19
High	153	44.0				
Total	348	100.0				

Source: Field survey, 2017

5.7.1 Perceived constraints to the use of infrastructure for livelihood activities on socio-economic status of respondents

Perceived constraints are those factors or elements that can limit an individual from making use of infrastructure for their livelihood activities. The result as observed from Table 5.9 reveals that inaccessibility to infrastructure ($\bar{x} = 1.59$) ranked 1st in their order of severity among the constraints faced by respondents. This may be attributed to low level of accessibility as observed in the study. This is closely followed by unavailability of infrastructure ($\bar{x} = 1.50$) which ranked 2nd. These constraints can limit the level of respondents' livelihood diversification. This is in line with the findings of Ewebiyi (2014) that inadequate infrastructure is a challenge to livelihood diversification and their level of livelihood involvement is bound to be limited. Irregular power supply ($\bar{x} = 1.42$) also ranked 3rd. This implies that most of the respondents will be prevented from improving their livelihood activities that depend on electricity as an energy source due to its irregular supply. This is supported by one of the FGD conducted when one of participants stressed the havoc done to them due to absence of electricity. In one of the FGDs conducted the respondents reported that,

."for the past four years now we have not seen what is called electricity. One of them further said that this condition has greatly affected her petty trading because she rarely gets iced block to sell her bottled water and other soft drinks" (42years old female discussant, Ode-Ekiti community, Gbonyin LGA of Ekiti State: June 2018)

In corroborating this finding, Egbetokun (2009) also found out that about 95 percent of rural dwellers used candle, hurricane and rechargeable lantern, while 15.0% used generating plant as their other means of energy source or power supply when there is power outage. Also, inadequate market for produce ($\bar{x} = 1.37$) ranked 4th. The resultant effect of this is that majority of the respondents will not have buyers for their produce most times or the produce are sold at a very cheap price. This can be attributed to the fact that almost all the respondents sold their goods at the same time due to lack of storage facilities. Therefore,

provision of adequate storage facilities should be the focus of both government and NGOs in order to make rural dwellers enjoy the fruits of their labour by selling their produce at reasonable price.

This result indicates unavailability of infrastructure, inaccessibility of infrastructure, inadequate market for produce and irregular power supply as the most severe constraints. Furthermore, the result in table 5.8 shows that political instability was ranked 14th implying that this constraint was mild. This might be possible because of the increasing level of community participation in the provision of infrastructure as indicated by a study carried out on provision of rural infrastructure that majority of the rural dwellers participate in community development (Adefila *et al*, 2014). This implies that more community efforts in the provision of infrastructure should be intensified as this will prevent stagnation of provision of infrastructure whenever there is change in government.

Table 5.9 Distribution of respondents' perceived constraints

Perceived Constraints	Severe Constraints		Mild Constraints		Not a Constraint		Mean	Rank
	Freq.	%	Freq.	%	Freq.	%		
Inaccessibility to infrastructure	214	61.5	97	27.9	37	10.6	1.59	1 st
Unavailability of infrastructure	175	56.3	137	39.4	36	10.3	1.51	2 nd
Irregular power supply	185	53.4	124	25.6	38	10.9	1.42	3 rd
Inadequate market for produce	174	50.0	128	36.8	46	13.2	1.37	4 th
Inadequate access to information	172	49.4	132	37.9	44	12.6	1.36	5 th
Lack of skill/technical knowledge about use of certain machines	179	51.4	107	30.7	62	17.8	1.34	6 th
Crop failure	169	48.6	130	37.4	49	14.1	1.34	6 th
Seasonality of agricultural produce	165	47.4	133	38.2	50	14.4	1.35	8 th
Change in climate	154	44.3	157	45.1	37	10.6	1.35	8 th
Change in demand of produce	154	44.3	153	44.0	41	11.8	1.32	10 th
Illiteracy	163	46.8	131	37.6	54	15.5	1.31	11 th
Unstable government policies	149	42.8	142	40.8	57	16.4	1.26	12 th
Political instability	137	39.4	151	43.4	60	17.2	1.22	13 th
Change in government	141	40.5	129	37.1	78	22.0	1.18	14 th
Conflict within the community	127	36.5	154	43.7	69	19.8	1.17	15 th
Conflict between the community	126	36.2	158	45.4	64	18.4	1.17	15 th
Small holding	125	35.9	157	45.1	66	19.0	1.16	17 th
Animal failure	128	36.8	149	42.8	71	20.4	1.16	17 th
Diversification	112	32.2	142	40.8	94	27.0	1.05	19 th
Lack of fund	11	3.2	11	3.2	326	93.7	0.96	20 th

Source: Field Survey, 2017

5.7.2 Categorisation of perceived constraints to the respondents' use of infrastructure

Result on Table 5.10 reveals the distribution of respondents according to the categorisation that 49.7% of the respondents perceived the constraints being of low, while 50.3% adjudged them being high. This result shows that the level of constraints which hinder respondents' use of infrastructure were relatively high. This result corroborates the findings of Oyesola (2007) who did similar study on the influence of infrastructure on livelihood activities and discovered a high level of constraints to the use of infrastructure among rural households. The outcome of this is that livelihood activities and socio-economic status of rural dwellers may be negatively affected as a result of high constraints to the use of infrastructure. The resultant effect of this is that individuals involved in one livelihood activities or the other can find it difficult to improve on their socio-economic status.

5.8 Livelihood activities engaged in by rural households in the study areas

Livelihood activities are those activities that an individual or household occupants are engaged, in order to obtain a means of survival or a way of meeting one's basic needs. Livelihood activities of rural dwellers are practically agrarian in nature; in addition to this there are non-farm and off-farm activities among others, that is just springing up in the rural areas. There are six categories of livelihood activities identified as adapted from the studies of Shylendra and Thomas (1995) and Fabusoro *et al.* (2010). Table 5.11 outlines the various livelihood activities under each category with the percentage, mean and rank involved in each activity. The on-farm work is essentially the work that is carried out on personal farm in crop, livestock or fish farming. It was observed from the result that all respondents selected for the study were involved in at least one of these three on- farm activities.

More than half (58.3%) and 55.2% of the respondents were involved in maize and cassava cultivation. Also, 16.4% and 34.8% of the respondents reared sheep and goats respectively while 11.2% were engaged in fish farming. This result is in tandem with Ewebiyi (2014) who reported that 11.6% were engaged in fish farming as a livelihood activity. This result shows that farmers plant crops as well as rear animals in order to increase their earning. This is supported by the submission of Eforuoku (2018) who reported that rural people were engaged in animal husbandry in addition to crop production so that it will stand as a source of food security in case of crop failure.

It can as well be observed that despite the numerous non-farm activities that are present in the rural areas, farming is still the major livelihood activities due to the fact that basic amenities are inadequate. This study was attested to by the opinion of Idachaba (1989) that due to the general notion underlying the rural infrastructure strategy. This is because rural infrastructural build-up is considered as the primary requirement of the rural people to manifest their full potentials. It is therefore difficult for the rural sector to contribute significantly to the economic progress of the nation as well as improve the standard of living vis-à-vis socio-economic status of the individual(s) in the sector.

The result also reveals that off-farm activities ($\bar{x}=0.22$) ranked 2nd. More than half (59.0%) of the respondents were involved in off-farm activities like cassava processing, while 31% and 38% were involved in melon and oil palm processing, respectively.

In addition, non-farm activities ranked 5th with mean of 0.08. This shows that very few of the respondents were engaged in non-farm and local services such as transportation (9.5%), carpentry (2.9%), tailoring (3.2%), motor repair (1.4%), shoe making (1.4%), rentals (1.7%), barbing (2.3%), hairdressing (2.3%) and blacksmithing (1.4%) This low level of respondents' involvement in these activities as shown on Table 5.11 might be due to the fact that some of these activities required skill, market availability, and necessary infrastructure such as good road, communication facilities, and adequate power supply among others. These infrastructure must be provided adequately and if not, agriculture will continue to be the primary occupation of agrarian community and consequently remain low income earners. These will reduce their purchasing power which may reduce their likelihood of improved socio-economic status.

Table 5.11 Distribution of respondents' livelihood activities

Livelihood Activities	Always	Sometimes	Never	Mean		Category		Rank		Mean		
				Freq.	%	Freq.	%	Freq.	%			
A On Farm Activities												
Arable – Maize	203		58.3	51	14.7	94	27.0	1.31				
Rice	38		10.9	65	18.7	245	70.4	0.41				
Cassava	192		55.2	26.7	49	14.1	19.8	107	30.7	1.24		
Melon	93		31.9	69	21.3	186	53.4	0.73				
Cocoyam	111		33.3	74	25.9	163	46.8	0.85				
Yam	116		60.3	90	0.9	142	40.8	0.93				
Vegetable	210			3		135	38.8	1.22				
			17.5		11.3							
Tree	Cocoa	61	6.3	40	12.9	247	71.0	0.47				
Cashew	Oil palm	39	11.2	45	13.8	281	80.7	0.26				
	Kolanut	27	7.8	48	14.4	261	75.0	0.36	0.51	1 st		
	Teak	18	5.2	50	9.5	271	77.9	0.30				
				33		397	85.3	0.19				
Livestock rearing												
	Cattle	7	2.0		5.7							
	Sheep	57	16.4	34.8	20	16.7	16.7	321	92.2	0.15		
	Goat	121	12.1	58	10.1	233	67.0	0.49	48.6	0.86		
	Pig	42	10.3	58	16.7	169	77.9	0.44				
	Snail	36	9.2	35	14.9	271	73.0	0.37				
	Rabbit	32	11.2	58	11.8	254	75.9	0.33	77.0	0.34		
	Fish farming	39		52	-	264	96.8	0.12				
	Domestic fowl	11		41		268						
						337	69.8	0.47				
B Off-Farm Activities												
Cassava processing	59		3.2	-	13.2		75.3	0.34				
	31				15.8		82.8	0.28				
					6.3	243	90.5	0.11				
	Oil palm processing	38	17.0	46	7.8	262	81.9	0.23	0.22	2 nd		
	Melon processing	6	8.9	55	12.9	288	77.6	0.33				
	Hunting	18	10.9	22	11.8	315	95.1	0.07				
	Milling of farm product	37	1.7	27	2.6	285	94.3	0.11				
	Grinding of pepper	8	5.2	45	4.0	270	96.6	0.02				
	Palm wire tapping	6	10.6	41	0.9	331						
	Gath.&SellingofNFTPs	2	2.3	9		328	80.7	0.32				
	Locustbeanprocessig	33	1.7	14		343	94.5	0.08	0.19	3 rd		
			0.6	3	6.0	2.9	87.6	0.21				
					3.4		92.5	0.13				
C Local Formal Employment												
Teaching	46				2.0	281						
	9		13.2	21		329						
	Nursing	31	2.6	10		305						
	LGA civil service	19	8.9	12		322	91.4	0.12	0.12	4 th		
	LGA night guard		5.5	7	4.6							
D Migratory wage services												
Casual skilled and Unskilled labour	14		4.0	16		318	87.1	0.22				
					3.4		91.4	0.11				
					5.7		93.1	0.10	96.0			
					3.7	2.6	0.05					
E Non-Farm Activities												
Transportation	11	9.5	12		2.9	303	95.7	0.06				
Carpentry	5	2.9	20		2.9	318	95.4	0.06				
Tailoring	5	3.2	1.4	13	2.6	2.0	324	95.2	0.07			
Motor repair	6	1.4	9		2.0	334	95.7	0.07				
Shoe making	8	1.7	10		1.7	333	96.6	0.05	0.08	5 th		
Rentals	8	2.3	2.3	10		332	94.0	0.10				
Barbing	5	1.4	9			331						
Hairdressing	15	4.3	7			333						
Blacksmitting	4		7			336						
Clergy			6			327						
	Butchery	10	1.4	2.9	10	2.9	2.5	333	95.7	0.06	94.5	0.08
	Pottery	2	0.6	9		2.3	329	97.1	0.04			
	Mat making & selling	6	1.7	8		2.6	338	95.7	0.06			
	Soapmaking & selling	5	1.4	2.3	9	3.7	3.2	333	94.8	0.07	94.5	0.08
	Brickmaking & laying	8	4.3	13		4.3	330	91.4	0.13			
	Welding	15	1.7	11		4.0	329	94.3	0.07			
	Bike/okada riding	6		15			318					
	Estate management			14			328	70.4	0.50			
			20.1		9.5		89.9	0.14				
			4.3		5.7		90.8	0.14	0.03	6 th	79.3	
D Local trade												
Petty trading	70		4.6	33	4.6	245	0.32					
Food vendor	15	11.5	20		9.2	313						
Selling of water	16		16			316						
Sales of agricultural Products	40		32			276						

Table 5.11 Distribution of respondents' livelihood activities

Livelihood Activities	Always			Sometimes			Never	Mean	Category	Rank
Vulcanising	5	1.1	8	2.3	336	96.6			0.05	

***Multiple responses**

Field Survey, 2017



Plate 1: Researcher with respondents in their local oil palm refinery at Oke Bola Community, Ayedaade LGA, Osun state



Plate 2: The site of oil palm refinery at Oke Bola, Ayedaade LGAs, Osun states

5.9.1 Perceived effects of infrastructure for livelihood activities on socio-economic status

Perceived effects are those changes that occur as a result of a particular event. Table 5.12 shows that more of the household heads strongly agreed that the followings were the most perceived effects of infrastructure on livelihood activities; produce spoilage due to inadequate storage facilities (66.1%), reduction in buyer patronage due to bad roads (45.7%), produce wastage due to absence of good roads (47.1%), selling of produce at cheaper price due to lack of storage facilities (63.8%), lack of access to irrigation facilities (47.7%), absence of investors in the study areas due to poor transportation network (42.5%), lack of adequate information on production activities (47.7%), low profits due to high transportation cost (48.0%), inability to diversify into other livelihood activities as a result of irregular supply of electricity (43.4%).

These perceived effects may serve as sources of discouragement for the respondents when considering the type of livelihood activities to be engaged in and facilitate their involvement in activities with minimal effects of infrastructure availability and accessibility.

Moreover, it was also agreed by majority that migration of able-bodied youth from the study areas (46.8%), untimely patronage of buyers due to poor communication (40.2%), trekking long distance and produce wastage due to bad roads (49.7%), poor health status due to inadequate health facilities (40.8%), hindrance to processing activities caused by inadequate water supply (39.7%); increase in the number of hours spent on water collection (40.2%); inaccessibility to necessary farm input due to lack of information (40.8%). This result shows that inadequate infrastructure had great negative effects on their income generating activities. The implication of all these to livelihood activities is that the respondents would not likely have the opportunity to be involved in many livelihood activities because of infrastructure inadequacy. This would result in the reduction of the respondent's income and consequently low socio-economic status. In addition, migration of able-bodied youth due to inadequate infrastructure has been identified as a survival strategy utilized by rural dwellers (Ajaero, 2011).

Thus, infrastructural inadequacy is in operation in the study areas and this was supported by the response of one of the participants in FGD who stated that:

“Our main hindrances are road and storage facilities, the roads are bad and we can’t sell our produce as we desire so whether we like it or not we have to go through the road like that, if not we will go hungry. Also many of our produce got spoiled because we have nowhere to keep or preserve them. We need road, we need storage facilities, we need companies and tertiary institution where even when we sell only pure water our lives will be better and our community also will be great.” (62years old female discussant, at Oke Bola community, Ayedaade LGA, Osun State: May, 2018)

However, 39.4% of the respondents strongly disagreed that there is disease outbreak due to unavailability of quality water in the study areas. This is not in agreement with the study of Egbetokun (2009) who reported that there was disease outbreak due to little or no provision of pipe- borne water.

Table 5.12a Distribution of respondents based on perceived effects of infrastructure for livelihood activities on socio-economic status

Perceived effects	SA	A	U	D	SD	Mean	Std dev.
	%	%	%	%	%		
Produce spoilage due to Lack of processing facilities	66.1	25.0	3.7	3.2	2.0	4.58	0.71
Low buyer patronage due to unavailability of good road	45.7	40.8	6.6	5.5	1.4	4.21	1.00
Produce wastage due to bad road	47.1	35.3	7.2	8.9	1.4	4.24	0.90
Untimely patronage of the buyer as a result of poor communication	37.1	40.2	6.3	13.8	2.6	4.18	0.99
Lack of electricity prevents involvement in many livelihood activities	56.2	34.3	4.7	2.7	2.1	4.23	0.90
Sales of produce at cheaper rate due to absence of storage facilities	44.0	40.2	6.3	6.0	2.9	3.95	1.10
Poor access to irrigation facilities Inability to involve in all round season production	63.8	26.1	6.3	3.4	0.3	4.16	0.99
Absence of good road promote trekking long distance which results in wastage	36.5	49.7	5.2	8.0	0.6	4.49	0.79
Disease outbreak due to absence of portable water	3.4	12.1	11.8	33.3	39.4	4.13	0.88
Absence of good road does not encourage investor in the area	47.7	29.9	6.0	14.7	1.7	3.93	1.14
Lack of information on production activities does not encourage improved livelihood and socio economic status	42.5	39.1	9.2	5.2	3.7	4.07	1.13
Poor health status due to lack of adequate health facilities	35.9	40.8	8.3	12.1	2.9	4.12	1.02
Processing activities are greatly being hindered by unavailability of water	30.7	39.7	9.8	17.8	2.0	3.94	1.08
There is profit reduction due to high cost of transportation	47.7	38.8	8.0	3.2	2.3	3.79	1.12
There is migration of able bodied youth from the study area	33.6	46.8	10.6	5.7	3.2	4.26	0.97
Absence of able boded youth in the study area has greatly increased the cost of labour	40.8	42.5	8.6	4.3	3.7	4.02	0.98
Increase in the number of hour spent on water collection in the study area	25.3	40.2	14.7	16.4	3.4	4.12	0.99
Inaccessibility to necessary farm input due to lack of information	35.3	40.8	12.4	10.1	1.4	3.68	1.12
Lack of storage facilities discourages large scale production	48.6	36.5	8.9	2.9	3.2	3.99	1.00
Poor communication prevents timely patronage of the buyer	41.5	34.7	6.9	4.8	3.3	3.95	1.10
Lack of irrigation facilities during drought cause incidence of pest and diseases	43.7	32.5	9.2	12.1	2.6	4.24	0.96
Inadequate processing facilities discourages large production	48.0	37.4	7.8	4.9	2.0	4.18	0.99

Poor access to health facilities often resulted in maternal death	40.2	33.3	12.4	10.9	2.9	4.03	1.12
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Source: Field survey, 2017

Table 5.12b Distribution of respondents based on perceived effects of infrastructure for livelihood activities on socio-economic status

Perceived effects	SA	A	U	D	SD	Mean	Std dev.
Lack of irrigation facilities reduces production of crops	34.8	43.4	11.8	5.5	4.6	3.98	1.04
Poor access to water drives up intensity for livelihood activities	30.5	39.4	13.5	12.9	3.7	3.79	1.10
Poor access to information cases reduction in the production activities	37.9	44.0	9.8	4.3	4.0	4.07	1.04
Unavailability of good road prevent investor from the study areas	45.4	32.8	7.5	10.1	4.3	4.04	1.12
Poor access to health facilities result in reduction in the involvement in livelihood activities	33.6	44.5	10.9	7.2	3.7	3.97	1.11
Absence of nearby market place discourages selling of produce on time	29.0	42.0	10.3	16.4	2.3	4.79	0.91
Absence of electricity supply posed threat to involvement in many livelihood activities							

Source: Field survey, 2017

43.4 39.9 10.6 4.3 1.7 4.24 0.94

5.9.2 Categorisation of perceived effects of infrastructure for livelihood activities on socio-economic status

Table 5.12 shows that perceived effect of infrastructure for livelihood activities on socioeconomic status was positive with more than half (59.5%) of the respondents attesting to this, while (40.5%) of the respondents indicated that it was negative.

Though there was low level of accessibility and high level of perceived constraints encountered by the respondents on the use of infrastructure. Despite this, the available infrastructure still impacted positively on their livelihood activities and by extension on their socio-economic status. It can therefore be concluded that if adequate infrastructure is provided, there will be improvement in the socio-economic status of rural dwellers. Adepoju *et al* (2013) discovered that livelihood diversification is plagued by infrastructure inadequacy.

Table 5.13 Categorisation of respondents based on perceived effects of
infrastructure on livelihood activities

Perceived effects of infrastructure on livelihood activities	Frequency	Percentage	Mean	Max.	Min.	SD
Negative	141	40.5	128.3	150	52	18.34
Positive	207	59.5				
Total	348	100.0				

Source: Field survey, 2017

5.10.1 Benefits derived by respondents from using infrastructure for their livelihood activities

The result from Table 5.14 shows that the major benefits derived to a larger extent by the respondents from using infrastructure were adequate water supply ($\bar{x}=1.42$) and good health care services ($\bar{x}=1.34$). The relatively high benefit derived from adequate water supply and good health care services may serve as an opportunity for the respondents. Involvement in processing activities, which requires water in most cases and the people need good health care services to be able to take care of themselves if the need arises. The implication of this is that there is going to be adequate water supply and opportunity for good health services, which may be the result of intervention of past governments on the provision of social amenities in few areas. This result corroborates Galadima (2014) who discovered water facilities to be the most benefited facility while health facility also ranked 3rd in this study. Furthermore, benefits derived in a lesser extent were indicated by respondents as ease of transportation of goods ($\bar{x}=1.24$) which may be due to the palliative situation of roads in the study areas, access to quality water ($\bar{x}=1.23$) and access to good roads ($\bar{x}=1.19$). The reasons for deriving low level of benefits from available infrastructure is that although they are available, they are grossly inadequate and not in good conditions.

However, no benefit was derived from availability of storage facilities ($\bar{x}=0.91$) which ranked 18th, opportunity for irrigation farming during dry season ($\bar{x}=0.90$) ranked 19th and employment opportunity ($\bar{x}=0.84$) ranked 20th due to non-availability and accessibility of infrastructure.

Table 5.14: Distribution of respondents' based on benefits derived from use of infrastructure for livelihood activities on socio-economic status of respondents

Benefits	To a larger Extent		To a lesser extent		Not at All		Mean	Rank
	Freq.	%	Freq.	%	Freq.	%		
Adequate water supply	167	48.0	161	46.3	20	5.7	1.42	1 st
Good health care services	166	53.4	134	38.5	8.0	1.34	1.34	2 nd
Ease of transportation of goods	104	29.9	222	63.8	22	6.3	1.24	3 rd
Access to quality water	130	37.4	169	48.6	49	14.1	1.23	4 th
Access to good road	106	30.5	203	58.3	102	29.3	1.19	5 th
Reduction in number of hours spent on water collection	113	32.5	184	52.9	51	14.7	1.18	6 th
Improvement on socio-economic status as a result of good road	108	31.0	166	47.7	74	21.3	1.10	7 th
Increased earning as a result of more livelihood activities	100	28.7	181	32.0	67	19.3	1.09	8 th
Access to information on marketing activities	103	29.6	171	49.1	74	21.3	1.08	9 th
Opportunity to sell at high price as a result of access to storage facilities	100	28.8	171	49.1	77	22.1	1.07	10 th
Access to information on production activities	96	27.6	164	47.1	74	21.3	1.02	11 th
Increase in number of able bodied youth due to regular power supply	96	27.6	152	43.7	100	28.7	0.99	12 th
Reduction in the cost of transportation	93	26.7	153	44.0	102	29.3	0.97	14 th
Establishment of small scale industries	92	26.4	154	44.3	102	29.3	0.97	14 th
Reduction in the cost of labour	87	25.0	160	46.0	101	27.0	0.96	16 th
Availability of processing facilities	92	26.4	148	42.5	108	31.0	0.95	17 th
Availability of storage facilities	97	27.9	123	35.3	128	28.8	0.91	18 th
Employment opportunity due to available infrastructure	80	23.0	154	44.3	114	32.8	0.90	19 th
Opportunity for irrigation farming	89	25.6	113	32.5	146	42.0	0.84	20 th

during dry season

Source: Field survey, 2017

5.10.2 Categorisation of benefits derived from using infrastructure for livelihood activities

Table 5.15 shows that the level of benefits derived from using infrastructure for livelihood activities on socio-economic status was low for most (52.6%) of the respondents while 47.4% indicated that the level of benefits derived was high.

The implication of this low level of benefit may be attributed to low level of accessibility and high level of perceived constraints encountered by the respondents on the use of infrastructure for livelihood activities. Adepoju *et al* (2013) supported this that livelihood diversification in the rural area is plagued by infrastructure inadequacy and as a result reduced the benefits that they might have realised.

Table 5.15 Categorisation of respondents according to benefits derived from using infrastructure for livelihood activities on socio-economic status

Benefits derived from using infrastructure	Frequency	Percentage	Mean	Max.	Min.	SD
Low	183	52.6	21.7	40.0	0.0	8.93
High	165	47.4				
Total	348	100.0				

Source: Field survey, 2017

5.11 Infrastructural profiles for different livelihood activities

Figure 14 revealed that the most prevalent infrastructure required for on-farm activities such as arable farming is transportation (98.4%), market (65.8%), and communication facilities (36.5%) while livestock farming also required transportation facilities (57.6%), water (73.6%), and market (46.0%). It was observed that water facilities are needed more for livestock production activities (73.6%) compared to that of arable crop (41.0%). This is because water facility is one of the major pre-requisite for livestock to thrive according to one of the FGD reports where participant said:

“we plant crops; we also rear animals, our crops needs water so also our animals, especially poultry birds, that need a lots of water for drinking and cleaning of their feeding troughs and pens.” (39year old male discussant, Ode Ekiti, Gbonyin LGA, Ekiti state: June 2018)

Likewise, in terms of transportation and market facilities, arable crops require more of transportation (98.4%) and market (65.8%) facilities. This may be attributed to the fact that arable crops are bulky and perishable in nature and it is necessary to transport them immediately to the market in order to sell them and avoid spoilage because of inadequate processing and storage facilities. The implication of this is that for on-farm activities (crop and livestock production) to thrive or improve in the rural areas, there should be good feeder roads linking rural areas to urban centers. Also, provision of adequate water in the rural areas should be encouraged so that agricultural activities can be boosted for improved socioeconomic status of the rural inhabitants.

Figure 15 reveals that off-farm activities require water (64.7%), processing facilities (43.9%), transportation facilities (24.3%) and energy source (18.4%). Off-farm activities are undertaken by respondents to augment proceeds from on-farm activities. Therefore, provision of these infrastructural facilities will enhance productivity and afford the rural dwellers opportunity to improve their socio-economic status.

Figure 16 shows that the likely infrastructure that are most required for non-farm livelihood activities like transportation business include communication (99.7%) and transportation facilities (98.6%). Furthermore, as indicated by Figure 5.11.3, non-farm activities such as welding requires energy source (23.5%), market (36.2%) and communication facilities (20.5%); brick making requires transportation (40.5%), water (16.1%), energy (24.9%), and market (36.1%). It is observed that this study established the fact that infrastructure like electricity is irregular in the study area. This is likely the reason why majority of these nonfarm activities are yet to gain enough popularity in the rural area. Ewebiyi (2014) opined that despite numerous non-farm activities that are in the rural areas, rural dwellers continue to engage in agricultural activities because of relatively high and drastic cutbacks in the provision of government social services provision with respect to infrastructure in the rural areas.

The result of analysis on Figure 17 shows that local trades such as petty trading requires communication facilities (16%) and market (36.1%), sales of processed agricultural products requires communication facilities (17.5%) and transportation facilities (5.2%) while food vending requires water facilities (13.3%) and market (0.3%).

Finally, from Figure 18, local formal employment like teaching requires transportation (16.8%), energy (9.8%), market (5.7%), health (4.3%) and communication (8.1%) facilities. In addition, nursing requires transportation (0.6%), water (0.9%), health (11.5%) and communication (0.3%) facilities. However, local government area civil servants require transportation (4.6%), energy (1.2%), market (1.5%), health (1.4%) and communication (1.7%) facilities.

The implication of these profiles is that it will be possible to know which particular infrastructure will be mostly needed in a particular area considering the prevailing livelihood

activities in that area. If this is achieved, there is tendency of high involvement in different livelihood activities which may result in the improvement of the respondents' socioeconomic status.

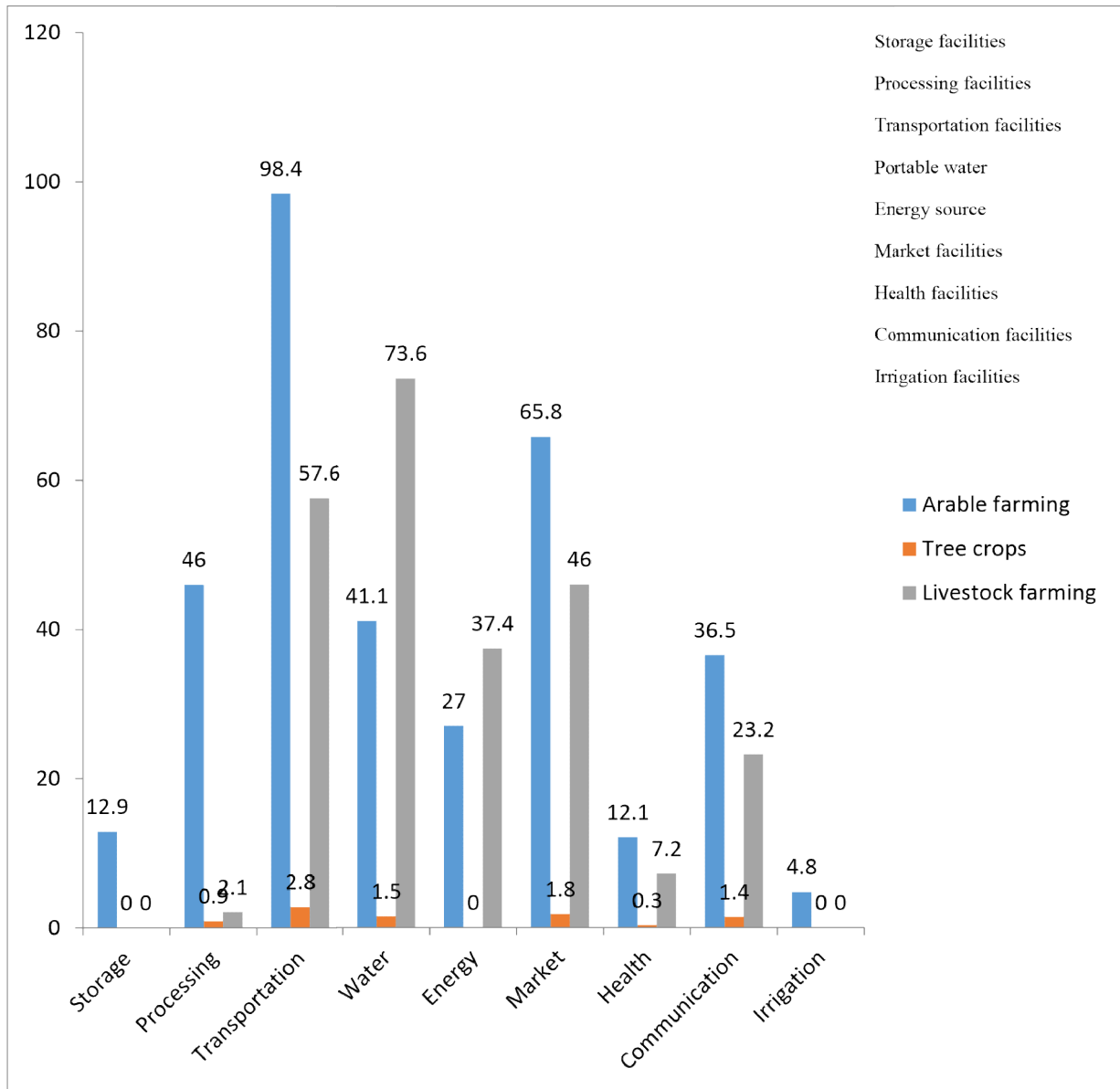


Figure 14: Infrastructural profile for on-farm activities
Source: Field Survey, 2017

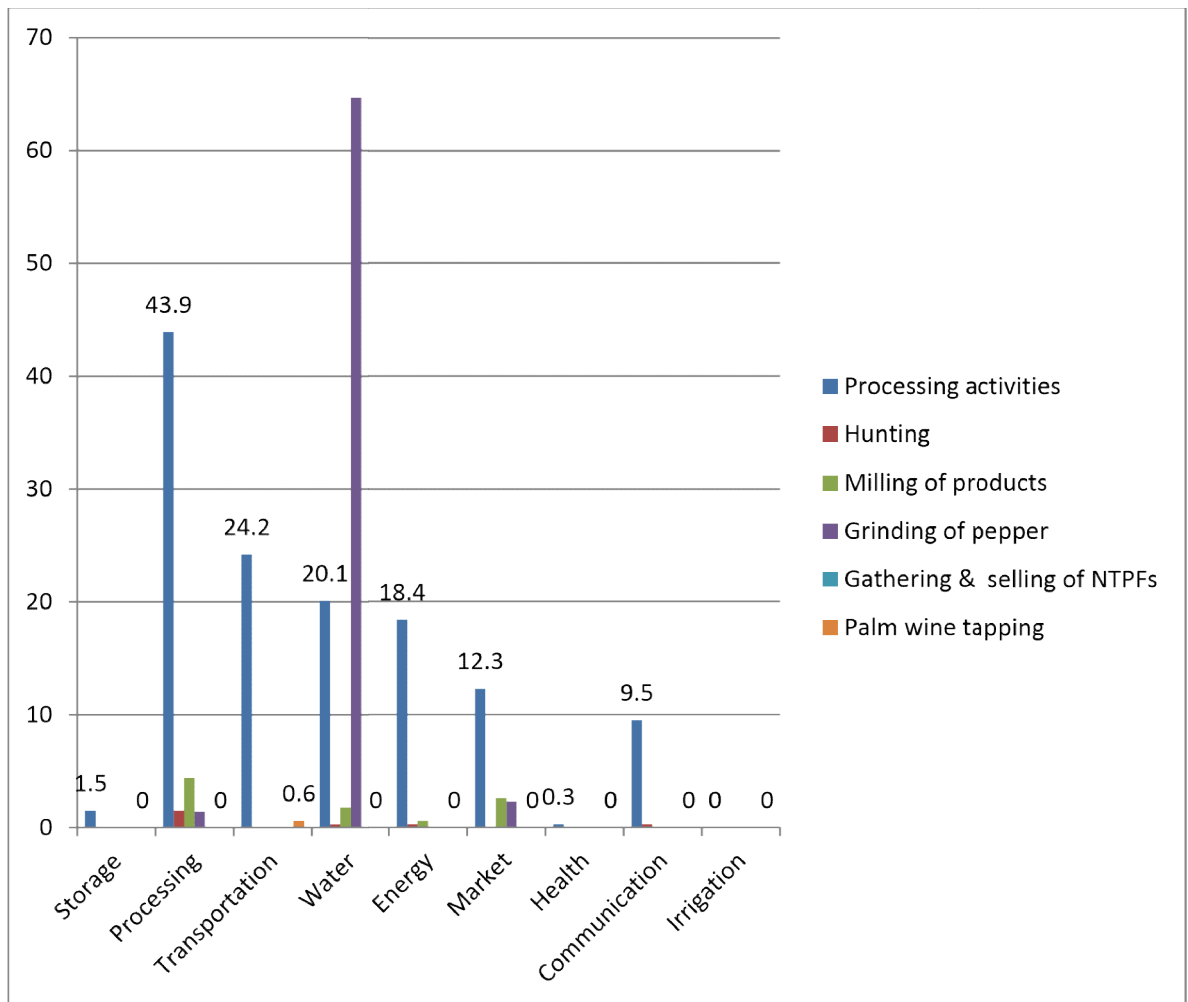


Figure 15: Infrastructural profile for off-farm activities

Source: Field Survey, 2017

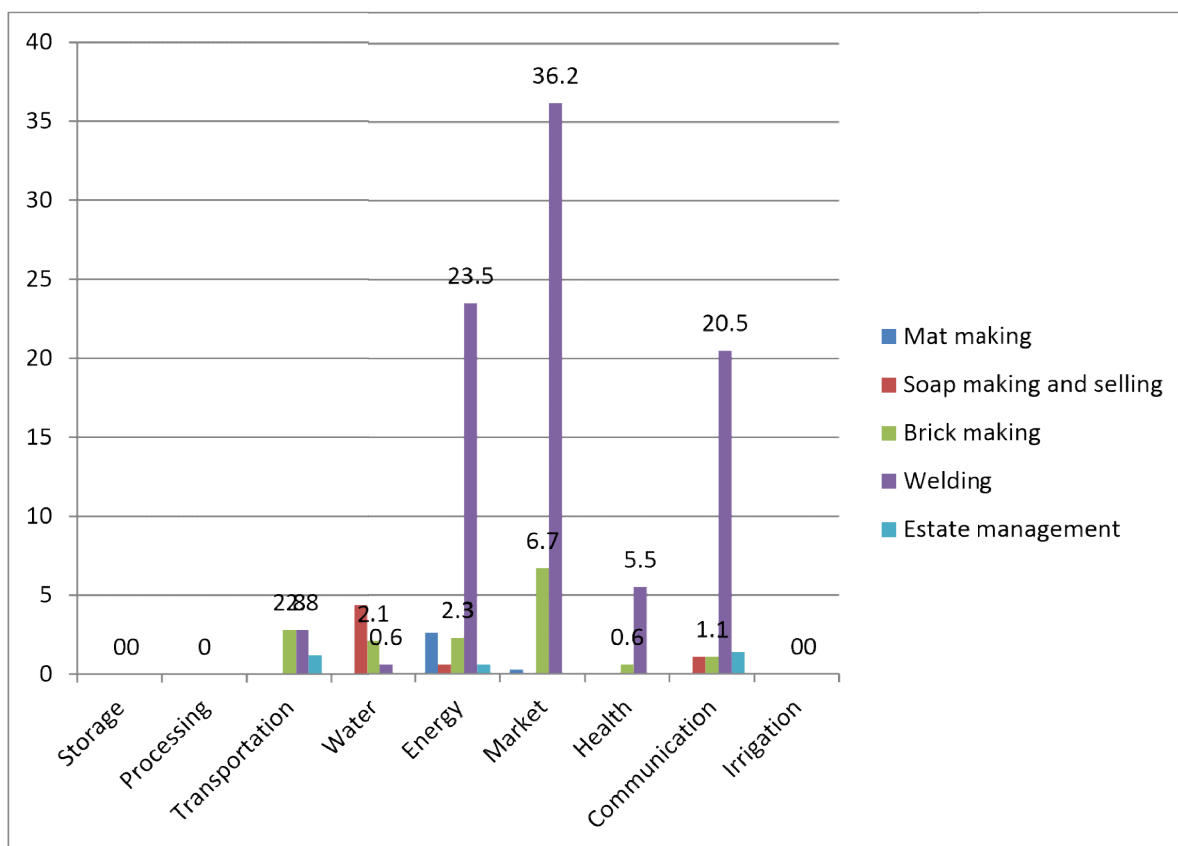


Figure 16: Infrastructural profile for non-farm activities

Source: Field Survey, 2017

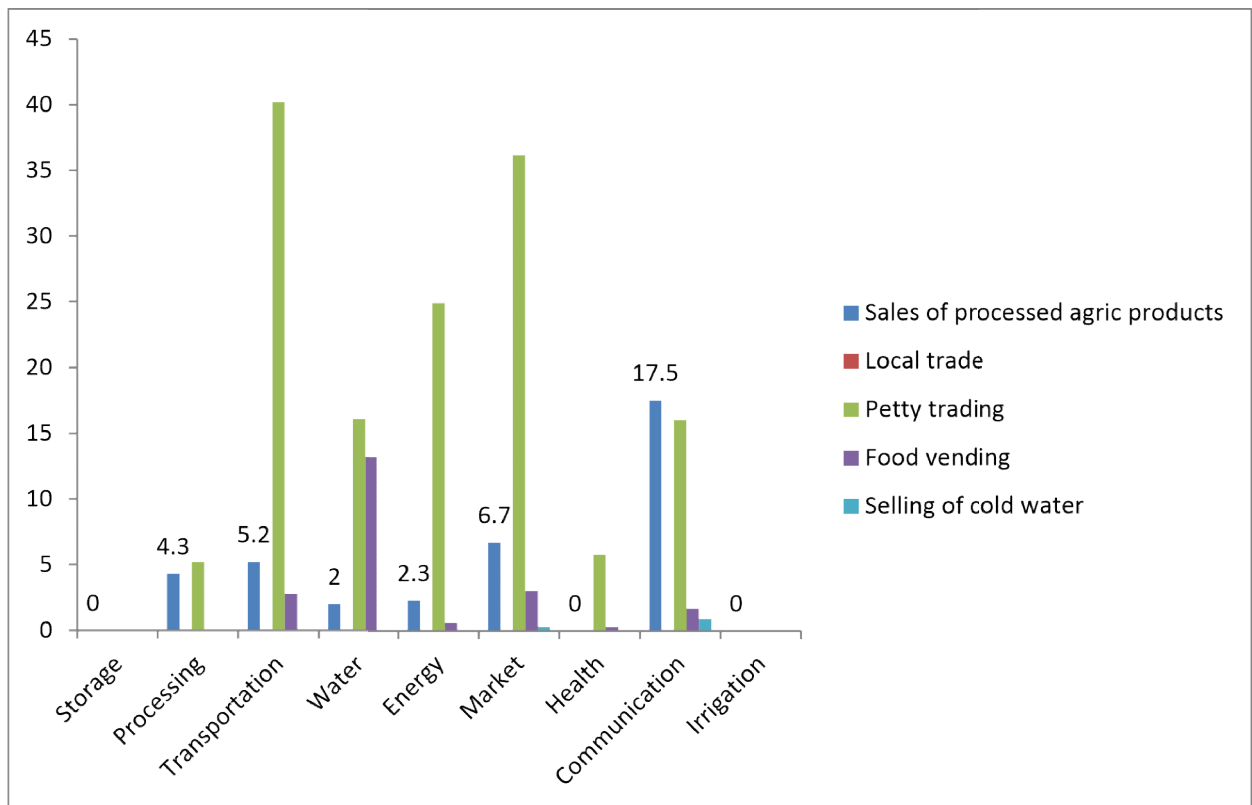


Figure 17: Infrastructural profiles for local trade
Source: Field Survey, 2017

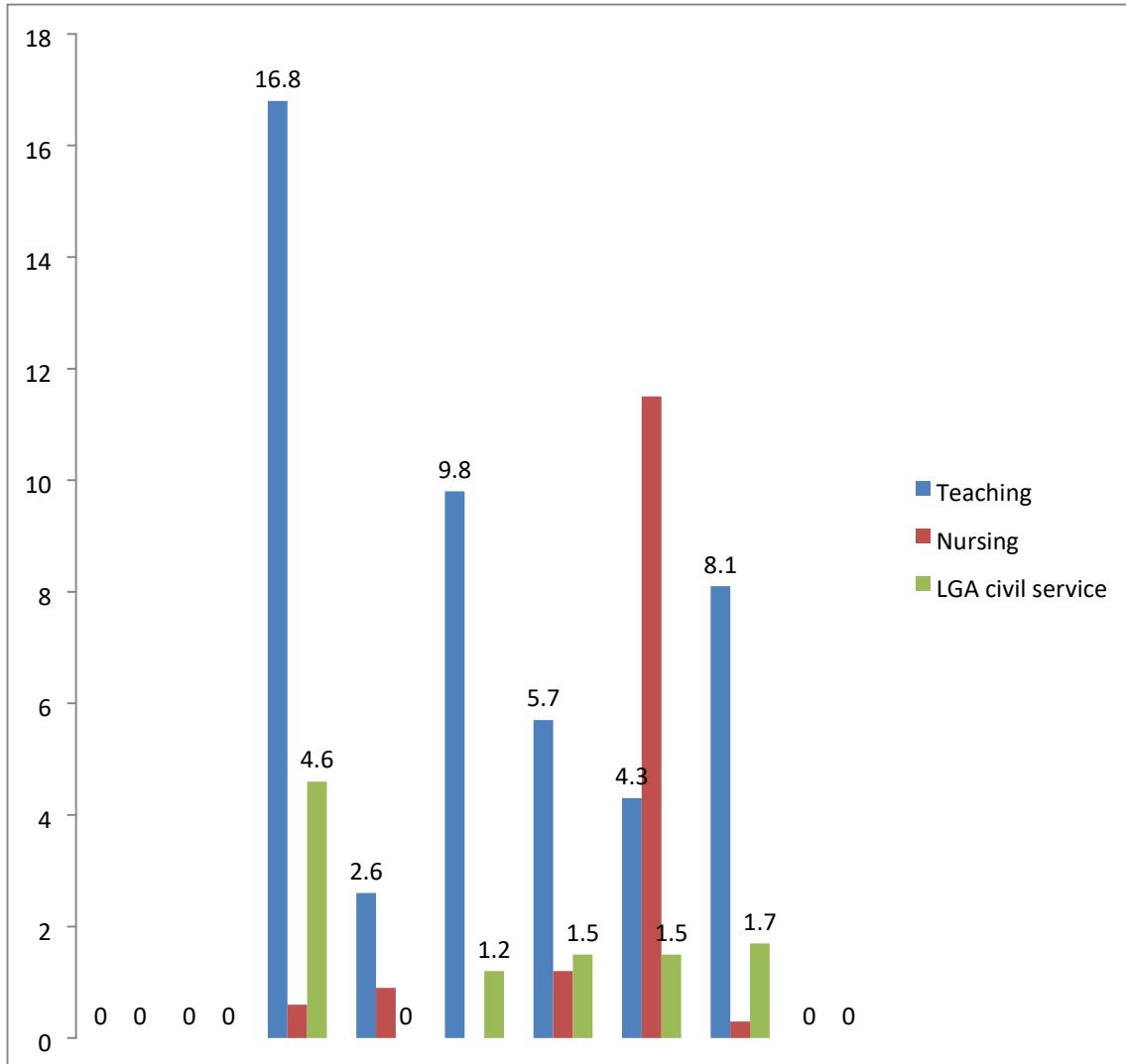


Figure 18: Infrastructural profile for local formal employment
Source: Field Survey, 2017

5.12.1 Socio-Economic Status of respondents

Result on Table 5.16 reveals respondents' socio-economic status through their possessions of socio-economic items presented to them which include: storey buildings in the village, other houses in the village, houses in the city, children in higher institutions, children that have graduated, functioning vehicles, floor rug, dining table, and personal generator among others. This was the view of one of the participants during the FGD

“Many of us are not financially buoyant, we feed on almost everything that we produce because we have no money to produce on large scale and there is unavailability of good and adequate facilities for use. Even when we have little to sell, our roads are bad, buyers have deserted our area because of bad roads and we are not able to keep the produce for a long period of time due to inadequate storage facilities. Therefore, there are many things we lack. We also love to send our children to the university but we cannot afford it. Government should come to our aid by providing conducive environment for our livelihood activities to thrive. (63year old female discussant, Oke Oje, Ayedaade LGA, Osun state: May, 2018)

Higher percentage of respondents indicated non-possession of the following items which include: storey buildings in the village (90.8%), houses in city (77.6%), children that have graduated (73.3%), functioning vehicles (67.3%), and children in higher institution (65.5%), other houses in village (58.6%). The reason for the non-possession of these items may be because majority (55.7%) of the respondents' primary occupation as revealed by this study is farming. This is corroborated by FAO, 2014 that farming is practiced by rural people at subsistence. Availability of infrastructure can assist and afford them the opportunity to increase their levels of productivity and by extension their purchasing power. This is followed by few of the respondents indicating that they possess only one unit of items like: functioning vehicle (25.3%), ceiling/table/standing fan (39.7%) and wooden bed with mattress (39.7%). This shows the level of the rural dwellers in terms of their socio-economic status.

Respondents attested to the fact that relatives living under the roof ($\bar{x}=1.46$) ranked 1st between the first set of items possessed. This result reveals the true picture of rural setting

because many of them accommodated family members in order to have more hands to work for them on the farm due to the fact that they do not have money to hire enough farm labour. This study showed that 34.2% of the respondents earn less than ₦10,000 per month while 44.3% use both hired and family labour on the farm.

Furthermore, the study shows that more of the household heads gave their consent on the possession of items like cushioned executive chairs (58.6%), motor cycle (50.0%), refrigerator (54.6%), personal generator (71.0%), radio cassette player (72.7%), television (74.7%), glass plates (77.3%) and cooking stove (79.5%). The larger percentage possessing these items may be due to the fact that many of them are not expensive to purchase especially glass, plate, radio. The FGD report corroborated this finding when a respondent said:

“At least we have radio, through which we obtain information to know what is going on, although there is no electricity supply but we normally buy batteries for our radio.”(52years old male discussant, Ode- Ekiti, Gbonyin LGA, Ekiti state: June 2018)

Table 5.16a Distribution of respondents based on socio-economic status

Items	%	None %	1 %	2 – 3	Above 4	Mean	St dev.
Storey building in village		90.8	6.3	1.1	1.7	0.14	0.50
Other houses in village		58.6	33.0	6.0	2.3	0.52	0.71
House in city		77.6	17.8	1.7	2.9	0.30	0.65
Children in higher institution		65.5	23.3	9.2	2.0	0.48	0.75
Children that graduated		73.3	17.5	7.2	2.0	0.38	0.71

Functioning vehicle	67.3	25.3	4.6	2.3	0.41	0.69	
Relative under roof	27.6	19.8	31.6	21.0	1.46	1.11	
Number of wives	47.7	37.4	12.6	2.6	0.70	0.79	
Ceiling/table/standing fan	17.5	39.7	29.6	13.2	1.30	0.92	
Wooden bed with mattress	15.5	39.7	31.6	13.2	1.40	0.91	
Electric stove		56.0	27.6	13.5	2.9	0.60	0.82
Size of farm		15.8	63.2	15.2	5.7	1.10	0.73

Source: Field Survey, 2019

Table 5.16b Distribution of respondents based on socio-economic status

Items	Yes	Mean	Std Dev.	
			%	
Floor rug		41.1	0.41	0.49
Dining table		48.3	0.48	0.50
Cushioned executive chairs		58.6	0.57	0.50
Bicycle		21.7	0.22	0.41
Motor cycle		50.0	0.50	0.50

Chieftaincy title	17.0	0.17	0.38
Leader of any society organization	26.4	0.26	0.44
Member of executive organization	42.5	0.43	0.50
Refrigerator	54.6	0.55	0.50
Cooking stove	79.6	0.80	0.40
Pit latrine	45.4	0.45	0.50
Toilet with water cistern	44.3	0.44	0.50
Television	74.7	0.74	0.44
Personal generator	71.0	0.71	0.45
Radio cassette player	72.7	0.73	0.45
Well	53.7	0.54	0.50
Deep well /borehole	24.1	0.24	0.43
Glass plates	77.3	0.77	0.42
Modern grinders	39.7	0.40	0.49
Modern milling machine	22.7	0.23	0.42
Membership of cooperative society	48.9	0.49	0.50

Source: Field survey, 2017

5.12.2 Categorisation of socio-economic status of the respondents

Table 5.17 shows that the level of socio-economic status of the respondents was moderate with majority (71.0%) indicating this while 12.6 per cent was high and 16.4% of the respondents attested that it was low. Result shows that the socio-economic status of respondents was moderate as 71.0% of the respondents were adjudged as having moderate socio-economic status. This result is not in consonance with Akinbile (2007) and Adegboye (2016) who discovered that majority of the members of the agrarian community were of low socio-economic status. This might be attributed to livelihood diversification which is now being advocated for in rural areas. The implication of this is that the majority of the

respondents are more likely to be partially involved in voluntary actions and this is of major importance in extension programmes, because for any development intervention to be successful, it must start where the people are. However, Oyo State was higher in socioeconomic status due to higher level of livelihood activities which translate to higher socioeconomic status.

This study also discovered that migration of able-bodied men from the agrarian community is also one of the major perceived effects of inadequate infrastructure for livelihood activities on the socio-economic status of the respondents. The youths do not want to remain in the environment where these amenities are inadequate. Lack of basic amenities in the rural areas when compared with the urban centres make the youths migrate to urban centre in search of greener pasture or white collar job, which does not exist and as a result leaving the aged in farm business. Although these youths have desirable characteristics that can promote agriculture; because the environment is not conducive (in terms of infrastructural provision) for agricultural and other livelihood activities to thrive, the youths are less involved in farming. Consequently, these lead to poverty, reduction in the nations' economy and food insecurity.

In order to record a high degree of success in improving the socio-economic status of rural dwellers, they should be assisted with provision of adequate infrastructure. This will make the rural areas attractive to the youths so that there would be successful replacement of ageing farmers, market for produce and increase in buyers' patronage.

In one of the FGD conducted in Ekiti State, one of the participants confirms this:

“Because our road is not good, many of the buyers have refused to patronize us and we do not have customers to buy our produce, we only sell few while many will spoil” (47year old male discussant, Ode-Ekiti, Gbonyin LGA, Ekiti state: June, 2018)

Table 5.17 Categorisation of respondents according to their socio-economic status

Socio-economic status of	Frequency	Percentage	Mean	Max.	Min.	SD	respondents
Low	57	16.4	4.0	10.76	0.19	1.68	
Moderate	247	71.0					

High	44	12.6
Total	348	100.0

Source: Field survey, 2017

Table 5.18 Categorisation of respondents according to socio-economic status across the states

Socio-economic status of respondents	Oyo		Osun		Ekiti		Total	
	F	%	F	%	F	%	F	%

Low	20	14.7	26	22.4	11	11.5	57	16.4
Moderate	105	77.2	75	64.7	67	69.8	247	71.0
High	11	8.1	15	12.9	18	18.8	44	12.6
Total	136	100	116	100	96	100	348	100
Mean \pm SD	1.56 \pm 0.65		1.29 \pm 0.56		1.15 \pm 0.47		4.0 \pm 1.68	

Source: Field survey, 2017

5.13: Results of the hypotheses testing

Hypothesis 1: There is no significant relationship between selected personal characteristics and socio-economic status of the respondents

5.13.1 Results of chi-square and PPMC analysis between personal characteristics and socio-economic status of the respondents

Table 5.18 presented results from the test of relationship between personal characteristics and socio-economic status of the respondents. From the results, sex ($\chi^2 = 14.806$), religion ($\chi^2 = 12.020$), marital status ($\chi^2 = 9.888$), primary occupation ($\chi^2 = 32.828$), membership of social group ($\chi^2 = 5.767$) were significantly ($p < 0.05$) related to the socio-economic status of the respondents. This implies that respondents' sex, religion, marital status, primary occupation had a significant relationship on their socio-economic status. Bumpas and Kelly, (1995) posited that the males still dominate rural income generating activities and this is in agreement with Ekong (2003) in Ewebiyi (2014) that there are more male household heads of productive age in rural areas of Southwest Nigeria than female. More males being in their productive years will determine the type of livelihood activities that they will embark on, and there are some activities which require more males than females. This will invariably afford the males opportunity to embark on different livelihood activities to improve their socio-economic status. In addition, Ekong (2003) opined that marriage facilitates farming activities in rural areas because it creates access to unpaid labour, which farmers crave for. Thus, enhancing reduced cost of production and increase benefits accrued from their livelihood activities leading to improved socio-economic status. Furthermore, Adekoya *et al* (2012) stated that membership of association provides a network of connection among farmers which may lead to mutual commitment; this mutual commitment of respondents may increase in the number of respondents' livelihood activities thereby providing an avenue for high socio-economic status.

Table 5.19 Chi-square relationship between personal characteristics and socioeconomic status of the respondents

Variable	df	χ^2 value	p-value	Decision
Sex	1	14.806	0.000	Significant

Religion	2	12.02	0.002	Significant
Marital Status	3	9.888	0.020	Significant
Primary occupation	7	32.828	0.000	Significant
Secondary occupation	7	10.155	0.180	Not significant
Membership of social	1	5.767	0.016	Significant

group

χ^2 = chi-square value, p=significance level, df = degree of freedom
Source: Field Survey, 2017

5.13.2 Result of Correlation (PPMC) between personal characteristics and socioeconomic status of the respondents

The correlational results on Table 5.19 shows that the age ($r=0.124$, $p < 0.05$), household size ($r=0.238$, $p < 0.05$) and years of formal education ($r=0.194$, $p < 0.05$) were significantly related to the socio-economic status of the respondents. Therefore, the null hypothesis was rejected. This is supported by the results of Akinbile (2007) that education also affects socioeconomic

status of farm families. Age has been found to determine a great extent the socioeconomic status of an individual. Socio-economic status is a primary determinant of subjective experience of aging; it shapes the way an individual thinks about the stages of life in general and his or her own age and life stages in particular. Compared with their wealthier counterparts, individuals with low socio-economic status tend to perceive a more temporarily compressed life course (Miroswsky and Ross, 2000).

Household size is another key factor that affects the socio-economic status of farm families. Household with high socio-economic status tend to possess smaller families compared to households with low socio-economic status, who as a result are not able to give better level of education, health and welfare to the children because of low income (Arthur, 2005).

Table 5.20 Correlational relationship between personal characteristics and socio- economic status of the respondents

Variables	r-value	p-value	Decision
Age	0.124	0.020	Significant
Household size	0.238	0.000	Significant
Years of formal education	0.194	0.030	Significant

r= correlation coefficient, p=significance level

Source: Field Survey, 2017

Hypothesis 2: There is no significant relationship between status of available infrastructure and socio-economic status of the respondents.

5.13.3 Relationship between status of available infrastructure and socio-economic status of the respondents

Table 5.20 reveals that status of available infrastructure is significantly related to the socioeconomic status of the respondents ($r = 0.138$, $p < 0.05$), thus the null hypothesis is rejected. This means that the better the status of the available infrastructure, the higher the socioeconomic status of respondents and vice versa. This validates Galadima, (2014) that the functional status of facilities provided may bring about income savings stemming from reduced expenditure on the items which can be diverted to other areas of consumption such as food which may improve the living standard of the respondents.

This then implies that the poor status of available infrastructure prevented respondents from adequately using the infrastructure for their livelihood activities and as a result translated to moderate socio-economic status as revealed by this study. This is in consonance with the study of Oyesola, (2007) that the status of available infrastructure in the rural area is poor.

Table 5.21 Relationship between status of available infrastructure and socioeconomic status of the respondents

PPMC result	r-value	p-value	Decision
Status of available Infrastructure	0.138	0.01	Significant

r=correlation coefficient, p= significance level

Source: Field survey, 2017

Hypothesis 3: There is no significant relationship between the extent of use of infrastructure for livelihood activities and socio-economic status of the respondents

5.13.4. Test of relationship between the extent of use of infrastructure for livelihood activities and socio-economic status

The result from Table 5.21 shows that the extent of use of infrastructure for livelihood activities is not significantly related to the socio-economic status of the respondents ($r = 0.094$, $p > 0.05$), thus, the null hypothesis is accepted. This means that how often the respondents use infrastructure does not signify improvement in the socio-economic status but may likely depend on the condition of the infrastructure and type of livelihood activities involved in. This result implies that the extent of use of infrastructure is a not a determinant of improvement in the socio-economic status of the respondents (Fakeye, 2018)

Table 5:22 Relationship between extent of use of infrastructure for livelihood activities on socio-economic status.

PPMC result of	r-value	p-value	Decision
Extent of use of infrastructure	0.094	0.080	Not Significant

r=correlation coefficient, p= significance level

Source: Field survey, 2017

Hypothesis

4: There is no significant relationship between constraints to the use of infrastructure and socio-economic status of the respondents.

5.13.5 Test of relationship between constraints to the use of infrastructure and socioeconomic status

Result from Table 5.22 shows the Pearson Product Moment Correlation (PPMC) analysis. A significant relationship does not exist between constraints to the use of infrastructure and socio-economic status of the respondents ($r = 0.04$, $p > 0.05$) in the study area, therefore the null hypothesis is accepted. It could be concluded that constraint to the use of infrastructure is not a likely disposition to affect the socio-economic status of the respondents (Pouliquen, 2018).

Table 5:23 Relationship between constraints to the use of infrastructure for livelihood activities and socio-economic status.

PPMC result of	r-value	p-value	Decision
Constraints to the use of infrastructure	0.004	0.935	Not significant

r=correlation coefficient, p= significance level

Source: Field survey, 2017

5: There is no significant difference in the livelihood activities of the respondents along the gender categories.

5.13.6 Test of difference in the involvement in livelihood activities of respondents along gender categories

The result from the Table 5.23 shows the result of the students t-test on differences in various livelihood activities of the respondents along gender categories. Student t-test shows that a significant difference in the involvement of male and female respondents in crop production ($t= 3.516, p<0.05$) along gender categories, therefore the null hypothesis is rejected. This is likely to happen considering the fact that this study found out that there are more male than female respondents in the study areas. Furthermore, farming is the primary occupation of respondents and it involves numerous tedious activities that require more male than female. The implication of this is that the male are more likely to make use of available infrastructure than female. This is in contrast to the study of Bawa, Donye, and Nuhu, (2010) who discovered that involvement of female in crop production was high.

Meanwhile, a significant difference does not exist between the involvement of male and female respondents in livestock rearing ($t=0.01, p>0.05$), off-farm activities ($t=0.930, p>0.05$), non-farm activities ($t=1.395, p>0.05$) and local formal employment ($t=1.238, p>0.05$). This is because involvement in these livelihood activities are less pronounced in the rural areas. This still makes their level of diversification low, implying unnoticeable differences in the level of involvement in these livelihood activities between male and female. Rural households still engaged more in agriculture as discovered by previous studies. According to Ewebiyi, (2014) despite the non-farm livelihood activities and others that are springing up in rural Nigeria, agriculture still engages an overwhelming population of rural households than other livelihood activities because of the infrastructural inadequacy.

Hypothesis

Table 5.24 Differences in the involvement in livelihood activities of respondents along gender categories.

T-Test result of	Mean value	t	df	p-value	Decision
Differences in livelihood activities					
Crop production	2.3298	3.516	346	0.000	Significant
Livestock production	0.0027	0.001	346	0.999	Not Significant
Off-farm activities	0.8359	0.930	346	0.353	Not Significant
Non-farm activities	0.84721	1.395	346	0.164	Not Significant
Local formal employment	0.23107	1.238	346	0.217	Not Significant

Source: Field survey, 2017

6: There is no significant difference in the status of available infrastructure across the states

5.13.7: Differences in the status of available infrastructure to respondents across Oyo, Osun and Ekiti States

The result of the one-way ANOVA of the status of available infrastructure across the state is shown on Table 5.23 and a Post Hoc multiple tests showing the differences in the status of available infrastructure across the states are also presented in Table 5.24. This indicated that the status of infrastructure was either better or worse in one state than the other or vice versa. The ANOVA result shows a significant difference in the status of available infrastructure across the states ($f = 5.838$; $p < 0.05$), therefore the null hypothesis is rejected. The post hoc multiple tests showed that the difference between the status of available infrastructure in Oyo and Osun State was significant ($MD = 8.40$, $p < 0.05$). There was also significant difference in the status of available infrastructure in Oyo and Ekiti ($MD = -5.447$, $p < 0.05$) States. Significant differences that exist between Oyo and Ekiti States as well as Oyo and Osun States might be due to the fact that Oyo State is one of the aged long created states. Therefore, there have been a lot of government interventions on provision of infrastructure in rural areas of the state, though they were inadequate. This implies that the status of infrastructure in Oyo State was better than that of Ekiti and Osun States.

Meanwhile, a significant difference does not exist between the status of available infrastructure in Ekiti and Osun ($MD = 2.923$, $p < 0.05$) States. This also might also be because both states were created during the regime of General Sanni Abacha in 1st October, 1996 and as a result, they are just developing in the area of infrastructural provision. The result therefore implies that the condition of available infrastructure in the rural areas across South-west, Nigeria differs from one state to another based on the period of creation of the states.

Hypothesis

Table 5.25 Analysis of Variance (ANOVA) showing differences in the status of available infrastructure across States

Variable	Sum of squares	df	Mean square	F	Sig.
Decision					
Between groups	4587.710	2	2298.860	5.838	0.003
Significant					
Within groups	135856.93	345	393.788		
Total	140454.65	347			

Source: Field survey, 2017

Table 5.26 Post Hoc test showing differences in the status of available infrastructure across the States

I(State)	J(State)	Mean difference (I-J)	Standard error	Sig.value
LSD Oyo	Osun	-8.40010	2.50803	0.001
	Ekiti	-5.4773	2.64527	0.039
Osun	Oyo	8.40010	2.50803	0.001
	Ekiti	2.92277	2.73801	0.287
Ekiti	Oyo	5.47733	2.64527	0.039
	Osun	-2.92277	2.73801	0.287

Source: Field survey, 2017

Hypothesis 7: There is no significant difference in the socio-economic status of respondents across states.

5.13.8: Differences in the socio-economic status of respondents across Oyo, Osun and Ekiti States

The result of the one-way ANOVA of the socio-economic status of respondents across the state is shown on Table 5.27. The ANOVA result shows that there is no significant difference

in the socio-economic status across the states ($F = 1.984$; $p > 0.05$), therefore the null hypothesis is accepted.

Table 5.27 Analysis of Variance (ANOVA) showing differences in the socioeconomic status of respondents across the States

Variable	Sum of squares	df	Mean square	F	Sig.	Decision
Between groups	11.170	2	5.585	1.984	0.139	Not Significant
Within groups	971.194	345	2.815			
Total	982.364	347				

Source: Field survey, 2017

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary of the major findings

Infrastructural development such as road, health, communication and irrigation facilities promotes rural livelihood activities and impacts on the socio-economic status of rural dwellers. Over the years, lack of or inadequate infrastructure (road, health, communication and irrigation facilities) persists in rural areas and has negatively impacted rural dwellers' livelihood activities and by extension their socio-economic status. Therefore, the extents to which they have aided livelihood activities of rural dwellers for improved socio-economic status were investigated.

The study was carried out among rural household heads in Southwestern Nigeria. A four-stage sampling procedure was used to select household heads for the study. Oyo, Osun and

Ekiti States were randomly selected. Rural LGAs were identified from the selected states. Twenty per cent of rural LGAs and two percent of communities were randomly selected from the states. Using proportionate sampling, a total of 348 household heads were selected for the study.

Quantitative data on household heads, personal characteristics, enterprise characteristics, availability of infrastructure, accessibility to infrastructure, the extent of use of infrastructure, perceived constraints, livelihood activities, infrastructural profile, benefits derived, perceived effects and socio-economic status were collected. Qualitative data from FGDs was also used for complimentary purpose. Quantitative data were presented using percentages, frequencies, bar charts, pie charts, means and standard deviation while hypotheses were tested using chi-square, PPMC and ANOVA.

The findings of the study revealed that the mean age of respondents was 43.4 ± 13.2 years across the states, 40.6% of the respondents were between 31 and 45 years, 56.3% were males, 70.4% were married and 70.1% have relatively large household size with mean of 6.02 ± 2.39 persons. The mean years of formal education were 10.8 ± 5.7 while more than three-quarter (80.6%) of the respondents had formal education. Across the states, most respondents (62.5%) were Christians, while 37.5% were Muslims. Nearly half (49.1%) of the respondents' primary occupation was farming, salary earners (22.1%), traders (12.6%), agricultural processors (8.0%), artisans (8.0%) and daily waged labourers (2.0%), and their secondary occupation was also farming. Respondents' social groups were cooperative societies (52.0%), religious group (42.7%), membership of associations (28.4%) and age groups (21.3%). Very few (13.2%) of the respondents were leaders of different social groups, 26.7% were executive members, 18.4% were committee members while 41.0% were ordinary members.

Half (54.9%) of the respondents had spent up to 10 years in their choice of enterprise with mean of 13 ± 10.4 years. Sources of labour used were family labour (44.3%), hired labour (27.1%) and both (21.6%). The mean number of persons used in labour was 4.3 ± 3.8 persons while 57.2% of the respondents used between 1 and 4 persons for labour. Less than half (41.1%) earned below ₦10,000 per month with average of $₦18,728 \pm ₦9,870$. More than one-

quarter (38.8%) of the respondents' worth of enterprise was less than ₦100,000 with mean worth of enterprise of ₦57,032±₦12,177.

Storage facilities such as crib, (67.0%), silo (69.5%), rhombus (75.0%) and cold room (98.6%), railway (73.9%), irrigation facilities (70.1%) and sheller (56.6%) were grossly unavailable. Borehole (59.8%), electricity (63.2%), rural health centre (72.1%), road (80.7%) and community markets (83.3%) were available to respondents as public infrastructure. The respondents also agreed that mobile phone (57.2%), radio (52.9%) and television (50.3%) were available to them as private infrastructure. The status of tap water (32.8%), television (40.2%), borehole (47.1%), government hospital (50.6%), village market (52.4%), maternity centre (52.9%), and road (55.2%) were indicated by most of the respondents as fair. Meanwhile, about one-quarter adjudged the status of electricity (37.1%) and storage facilities like rhombus (39.1%) as poor.

Accessibility of respondents to milling machine (42.0%), maternity centre (44.0%), television (45.7%), stall (46.8%), road (50.6%) and electricity (57.9%) were to a lesser extent. Majority (72.1%) had better access to firewood, well water (67.0%), community market (63.5%), radio (56.3%) and village market (51.4%). However, across the states, larger percentage did not have access to storage facilities like crib (64.0%), silo (64.9%) and rhombus (70.1%) and irrigation facilities such as sprinkler (70.7%) and sub-surface (69.0%).

Road (58.6%), well water (66.4%), community market (67.5%) and mobile phone (81.3%) were always used by most of the respondents. Moreover, private hospitals (34.8%) were rarely used by respondents while 66.4% and 70.7% were not using processing and irrigation facilities respectively. Constraints to the use of infrastructure were inaccessibility to infrastructure ($\bar{c}=1.59$), unavailability of infrastructure ($\bar{c}=1.51$) and irregular power supply ($\bar{c}=1.42$).

Most of the respondents were involved in arable crop production like maize (58.3%), cassava (55.2%) and vegetables (60.3%). The respondents were also engaged in livestock production such as sheep (16.4%) and goats (34.8%) while 11.2% were engaged in fish farming. Other livelihood activities that were engaged in by respondents include cassava processing (17.0%), transportation (9.5%), tailoring (3.2%), hairdressing (2.3%) and

blacksmithing (1.4%). The most prevalent infrastructure needed by respondents were communication facilities (99.7%) and road (98.4%). More than half (65.8%) needed market facilities and water (64.7%). Health facilities and energy source were needed by few (24.9% and 5.5%) for their livelihood activities.

Benefits derived by respondents in their order of importance were: adequate water supply ($\bar{x} = 1.42$), good health care services ($\bar{x} = 1.34$), ease of transportation of goods ($\bar{x} = 1.24$) and access to quality water (1.23). Nevertheless, most of the respondents strongly agreed that produce wastage due to lack of storage facilities (66.1%), inability to practice all-round season production due to poor access to irrigation facilities (63.8%) and reduction in buyer's patronage due to unavailability of good roads (45.7%) were the major effects of infrastructure for livelihood on socio-economic status of respondents. Across the states, socio-economic status of the respondents was moderate.

Personal characteristics that were significantly related to socio-economic status were sex ($\chi^2 = 14.806$, $p < 0.05$), religion ($\chi^2 = 12.02$, $p < 0.05$), primary occupation ($\chi^2 = 32.828$, $p < 0.05$) marital status ($\chi^2 = 9.88$, $p < 0.05$), membership of social group ($\chi^2 = 5.767$, $p <$

0.05), age ($r = 0.12$, $p < 0.05$), household size ($r = 0.24$, $p < 0.05$) and years of formal education ($r = 0.194$, $p < 0.05$). Significant relationship also exists between status of available infrastructure ($r = 0.138$, $p < 0.05$), perceived constraints ($r = 0.004$, $p > 0.05$) in the use of infrastructure and socio-economic status of the respondents. However, significant relationship does not exist between extent of use of infrastructure ($r = 0.094$, $p > 0.05$). There is significant difference in the status of available infrastructure across the states ($F = 5.838$, $p < 0.05$). Finally, the socio-economic status of household heads in Southwestern Nigeria does not differ significantly.

6.2 Conclusion

Based on the findings from this study it was concluded that the mean age of the respondents in the study areas was 43.0 ± 13.4 years. Majority of the household heads were still in their active years. Male were more involved in livelihood activities than female. Respondents practiced both Christianity and Islam, were formally educated and had relatively large household size of six persons. Primary occupation of respondents in the study area was farming. However, they were also involved in other livelihood activities such as petty trading, welding and transportation among others. Religious and cooperative societies were

the major social groups of the respondents. Monthly income and worth of enterprise of household heads in the study area were low.

Electricity, tap water, rural health centres among others were available public infrastructure, while borehole, mobile phone, television and radio were available private infrastructure. Status of road, electricity and storage facilities was poor. Majority constraints to the utilization of infrastructure were inaccessibility to infrastructure and irregular power supply. Benefits derived by respondents from using infrastructure for their livelihood activities were low. Constraints faced by household during utilization of infrastructure for livelihood activities were high.

Perceived effects of infrastructure for livelihood activities on socio-economic status of respondents were positive this implies that the more adequate infrastructure is available, the more the improvement in their socioeconomic status and vice versa. However, respondent's socio-economic status was moderate in the study area.

Sex, religion, primary occupation, marital status and membership of social group were among the factors, which determine the socio-economic status of the respondents. In addition, years of formal education, household size and age also had effects on respondents' socio-economic status. Status of available infrastructure for livelihood activities also influences the socio-economic status of the respondents.

There was no significant relationship between constraints and the extent of use of infrastructure and socio-economic status of the respondents. There was significant difference in the involvement of male and female respondents in crop production while there was no significant difference between their involvement in other off-farm and non-farm activities.

6.3 Recommendations

Based on the findings of this study, the following recommendations are made.

1. The study established that educational level of the respondents is germane to their socioeconomic status. Efforts should therefore be made for the training of rural dwellers through adult literacy classes and capacity building which can be made through extension agents and other non- governmental organisations (NGOs).

2. Community development projects should be encouraged in the rural areas through government agencies like Ministries, Public Private Partnerships as this will help them to provide their immediate and pressing needs in terms of required infrastructure.
3. Related livelihood activities information to rural dwellers through mobile phone should be stressed and communicated by extension agents as most of these rural dwellers now have and control mobile phone due to improved technology in the communication sector.
4. There should be provision of adequate processing and storage facilities by private agencies, farmers or government through establishment of marketing commodity boards using the existing cooperative groups among the rural dwellers who will assist them on how to properly store their produce so that they can sell in the period of scarcity in order to make more money.
5. There should also be establishment of new feeder roads by agencies of the government so as to facilitate easy evacuation of produce from the rural areas to urban centres.
6. Government should provide basic amenities like electricity, pipe borne water, health facilities and good roads in the rural areas so as to discourage the migration of able bodied youths to the urban centres, so that there would be enough labour on the farm for agricultural activities.
7. Policies on establishment of small scale industries and provision of related infrastructure in the rural areas across the states should be advocated by different agencies as this will create employment opportunities and diversification into other livelihood activities and thereby improve rural dwellers' socio-economic status.
8. There is an urgent need for government and other NGOs to fully embark on the implementation of policies that advocate for provision of infrastructure in the rural areas, because it serves as incentives for economic efficiency and productivity of the rural dwellers so that their livelihood activities would be enhanced, for improved socio-economic status as this would boost their interest in the agricultural activities, especially the youths.

6.4 Contributions to Knowledge

1. Different livelihood activities among respondents sampled in the study area were documented.

2. Storage and irrigation facilities were grossly inadequate.
3. Conditions of roads in the study area were poor.
4. There was low accessibility and low benefits derived from infrastructural utilization.
5. Low extent of use of infrastructure and high perceived constraints were established.
6. There was positive perceived effect of infrastructure on socio-economic status of household heads.
7. Infrastructural profile for different livelihood activities in the study area were documented
8. Moderate level of socio-economic status of respondents was also documented.

Suggestions for further study

1. Assessment of infrastructural provision in Southwestern Nigeria
2. Comparative study of effects of infrastructure on livelihood activities in two different states
3. Determinants of socio-economic status of farm families
4. Evaluation of infrastructural status in selected states in Nigeria

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APPENDIX 1
INTERVIEW SCHEDULE
DEPARTMENT OF ARGICULTURAL EXTENSION AND RURAL
DEVELOPMENT,
FACULTY OF AGRICULTURE AND FORESTRY
UNIVERSITY OF IBADAN, IBADAN NIGERIA

Dear respondent,

This researcher is a PhD student of this department, conducting a survey on “**Effects of infrastructure for livelihood activities on socio-economic status of rural dwellers in Southwestern Nigeria**”. We pledge that the information collected will be used for academic purpose only. Your cooperation is hereby solicited to provide assistance for the researcher and the information will be treated with utmost confidentiality Thank you.

Section A: Personal characteristics

1. Age years
2. Sex: Male (), Female ()
3. Religion: Christianity (), Islam (), Traditional (), Others
4. Marital status: Single (), Married (), Divorced (), Widow or widower ()
5. Household size... persons
6. Years of formal education years
7. Primary occupation: Food crop farming (), Livestock rearing (), Food crop farming and livestock rearing (), Trading (), Agricultural processing (), Daily waged labour (), Artisan (), Salaried job ().

8. Secondary occupation: Food crop farming (), Livestock rearing (), Food crop farming and livestock rearing (), Trading (), Agricultural processing (), Daily waged labour (), Artisan (),
9. Which of the following groups do you belong? Tick as many as applicable. Social club (), Age group (), Cooperative (), Religious (), Occupational (), Specify others _____
10. If you belong to any of the groups, what position do you occupy in the group(s)? Leader (), Executive member (), Committee member (), Ordinary member ()

SECTION B: Enterprise characteristics

11. Years of experience in the enterprise(s): _____ years
12. Do you use labour in your livelihood activity (ies)? Yes (), No () 13.

What kind of labour do you use? Family (), Hired (), Both ()

14 What is the average number of persons used in labour? _____

15. What is the average income from the enterprise per period? ₦ _____, Daily (), Weekly (), Monthly (), Annually ()

16. What is the worth of the enterprise(s) in Naira? ₦ _____

Section C: Infrastructure available to respondents 17.

How are following infrastructure available to you?

Infrastructure	Public	Private	Not Available
Storage facilities			
Crib			
Silo			
Rhombus			
Barn			
Specify others (store)			
Processing facilities			
Milling machine			
Roasting equipment			
Soaking container			
Dryer			

Sheller			
Specify others			
Transportation facilities			
Good road			
Railway			
Water			
Specify others			
Energy source			
Coal			
Firewood			
Solar			
Electricity			
Generator			
Specify others			
Water source			
Well			
Tap			
Borehole			
Specify others			
Market			

Household			
Village market			
Community market			

Infrastructure	Public	Private	Not Available
Road side market			
Lock- up shops			
Stalls			
Specify others			
Health facilities			
Rural health Centre			
Standard government hospital			
Private hospital			
Maternity Centre			
Herbal Centre			
Specify others			
Communication facilities			
GSM			
Radio			
Television			
Newspaper			
Specify others			

Irrigation facilities			
Sprinkler			
Sub- surface			
Manual			
Specify others			

Section D: Status of infrastructure available to respondents

18. What is the state of the infrastructure available in the study area?

Infrastructure	State of available infrastructure		
	Good	Fair	Poor
Storage facilities			
Crib			
Silo			
Rhombus			
Barn			
Specify others (store)			
Processing facilities			
Milling machine			
Roasting equipment			
Soaking container			

Dryer			
Sheller			
Specify others			
Transportation facilities			
Good road			
Railway			
Water			
Specify others			
Energy source			
Coal			
Firewood			
Solar			
Electricity			
Generator			
Specify others			
Water source			
Well			
Tap			
Borehole			
Specify others			

Market			
Household			
Village market			
Community market			
Road side market			
Lock- up shops			
Stalls			
Specify others			
Health facilities			
Rural health Centre			
Government hospital			
Private hospital			
Maternity Centre			
Herbal Centre			
Specify others			
Communication facilities			
GSM			
Radio			
Television			
Newspaper			
Specify others			
Irrigation facilities			

Sprinkler			
Sub- surface			
Manual			
Specify others			

Section E: Accessibility of infrastructure to respondents

19. To what extent do you have access to the following infrastructure?

Infrastructure	State of available infrastructure		
	Good	Fair	Poor
Storage facilities			
Crib			
Silo			
Rhombus			
Barn			
Specify others (store)			
Processing facilities			
Milling machine			
Roasting equipment			
Soaking container			
Dryer			
Sheller			
Specify others			
Transportation facilities			
Good road			

Railway			
Water			
Specify others			
Energy source			
Coal			
Firewood			
Solar			
Electricity			
Generator			
Specify others			
Water source			
Well			
Tap			
Borehole			
Specify others			
Market			
Household			
Village market			
Community market			
Road side market			
Lock- up shops			
Stalls			

Specify others			
Health facilities			
Rural health Centre			
Government hospital			
Private hospital			
Maternity Centre			
Herbal Centre			
Specify others			
Communication facilities			
GSM			
Radio			
Television			
Newspaper			
Specify others			
Irrigation facilities			
Sprinkler			
Sub- surface			
Manual			
Specify others			

Section F: Extent of use of infrastructure

20. To what extent do you use the following infrastructure for your livelihood activities?

Infrastructure	State of available infrastructure		
	Good	Fair	Poor
Storage facilities			
Crib			
Silo			
Rhombus			
Barn			
Specify others (store)			
Processing facilities			
Milling machine			
Roasting equipment			
Soaking container			
Dryer			
Sheller			
Specify others			
Transportation facilities			
Good road			
Railway			
Water			
Specify others			

Energy source			
Coal			
Firewood			
Solar			
Electricity			
Generator			
Specify others			
Water source			
Well			
Tap			
Borehole			
Specify others			
Market			
Household			
Village market			
Community market			
Road side market			
Lock- up shops			
Stalls			
Specify others			
Health facilities			
Rural health Centre			

Government hospital			
Private hospital			
Maternity Centre			
Herbal Centre			
Specify others			
Communication facilities			
GSM			
Radio			
Television			
Newspaper			
Specify others			
Irrigation facilities			
Sprinkler			
Sub- surface			
Manual			
Specify others			

Section G: Perceived constraints on use of infrastructure

21. How do the followings constitute constraints to the use of infrastructure for your livelihood?

Constraints	Severe Constraints	Mild Constraints	Not a Constraint
Inaccessibility to infrastructure			
Unavailability of infrastructure			
Inadequate extension service			
Poverty			
Lack of skills/technical knowledge about the use of processing machine			
Illiteracy			
Inadequate access to information			
Conflict within the community			
Epileptic power supply			
Population			

Increase in livelihood activities			
Socioeconomic status			
Seasonality of agricultural produce			
Unstable government			
Change in climate			
Conflict between the community			
Crop failure			
Small holding			
Change in demand of produce			
Animal failure			
Diversification			
Change in government			
Inadequate market for produce			
Political instability			

Specify others			

Section H: Infrastructure facility (ies) used for livelihood activity (ies)

22. Kindly identify your livelihood activity (ies) and the infrastructure facility (ies) you use mostly to fulfill it/them

Livelihood activities	Infrastructure used
On-farm activities	
Arable crop farming e.g. maize, cassava, rice etc	
Tree crops e.g. cocoa cashew, oil palm etc	
Livestock farming e.g Cattle, Sheep, goat, fish, rabbit etc	
Specify others	
Off-farm activities	
Processing activities e.g. cassava processing, oil palm processing, melon processing etc.	
Hunting	
Milling of farm products	
Grinding of pepper	
Gathering and selling of NTFPs	
Palm wine	
Specify others	
Non-farm activities	

Transportation	
Carpentry	
Tailoring	
Motor repair	
Hairdressing	
Pottery	
Mat making	
Soap making and selling	
Brick making and laying	
Welding	
Specify others	
Local trade	
Estate management	
Sales of processed agric. Products	
Petty trading	
Food vending	
Selling of water	
Specify others	
Local formal employment	
Teaching	
Nursing	
LGA civil service	
LGA night guard	
Specify others	

Section I: Benefits of Infrastructure to Livelihood Activities

23. To what extent do you have the following as benefit to your livelihood activities as a result of use of infrastructure?

Benefits	To a larger extent	To a lesser extent	Not at all
Good health			
Adequate Water supply			
Ease of transportation of goods			
Good road			
Establishment of small scale industries			
Employment opportunity			
Reduction in number of hour spent on water collection.			
Reduction in the transportation cost			
Opportunity for irrigation facilities In the dry season			
Access to information on production activities			
Immigration of able bodies youth			
Reduction in cost of production			
Access to quality water			
Availability of processing facilities			
Availability of storage facilities			
Adequate electricity supply			
Increased earning as a result of more livelihood activities			
Accessibility to information on marketing activities			
There is improvement in our socioeconomic status as a result of good road			

There is opportunity to sell at high price as a result of access to storage facilities			
--	--	--	--

Section J: perceived effects of infrastructure for livelihood activities on socioeconomic status

24. Kindly respond to the following statements as regards to their effects on your livelihood activities?

Statements	Strongly agree	Agree	undecided	Disagree	Strongly Disagree
Lack of processing facilities leads to spoilage of produce					
Unavailability of goods roads discourages buyers patronage					
Lack of electricity prevent involvement in many livelihood activities					

There is a lot of produce wastage due to road					
Poor communication prevents timely patronage of the buyer					
Produce are sold at cheaper rate due to absence of storage facilities					
Poor access to irrigation facilities do not encourage all round season production					
Absence of good road promote trekking long distance which results in produce wastage					
There is disease outbreak due to absence of portable water					
Absence of good road does not encourage improved livelihood					
Lack of information on production activities are greatly being hindered by unavailability of water					
There is profit reduction due to high cost of transportation					
There is migration of able bodied youth from the area					
There is increase in the number of hour spent on water collection in the study area					
Inaccessibility to necessary farm input due to lack of information					
Lack of storage facilities discourages large scale production					
Lack of information on marketing of produce does not encourage large scale production					
Lack of irrigation facilities during drought cause incidence of pest and					

diseases					
Inadequate processing facilities discourages large production					
Poor access to health facilities often resulted in maternal death					
Absence of electricity supply posed threat to involvement in some livelihood activities					
Poor access to health facilities					
Reduce the number of livelihood activities					
Absence of nearby market place does not encourage selling of produce on time					
Lack of irrigation facilities reduces production of crop and animals					
Poor access to water drive up time intensity for livelihood activities					
Poor access to information causes reduction in the production activities					
Unavailability of good road prevent investors from the study area					

Section K: Livelihood activities of the respondents

25. To what extent do you engage in the following livelihood activities?

Livelihood Activities	Always	Sometimes	Never
On-Farm activities			
<i>Arable crop farming</i>			
Maize			
Rice			
Cassava			

Melon			
Cocoyam			
Yam			
Melon			
Specify others			
<i>Tree crops</i>			
Cocoa			
Cashew			
Oil palm			
Kolanut			
Teak			
Specify others			
<i>Livestock farming</i>			
Cattle			
Sheep			
Goat			
Pig			
Snail			
Rabbit			
Fish farming			
Specify others			
<i>Off-farm Activities</i>			
Cassava processing			
Oil palm processing			

Melon processing			
Hunting			
Milling of farm products			
Grinding of pepper			
Palm wine tapping			
Gathering and selling of NTFPs			
Specify others			
<i>Non-farm activities</i>			
Transportation			
Carpentry			
Tailoring			
Motor repair			
Shoe making			
Rentals			
Barbing			
Hair plaiting			
Clergy			
Vulcanizing			
Butchery			
Pottery			
Mat making			
Soap making and selling			
Brick making laying			
Welding			
Bike/okada riding			

<i>Local trade</i>			
Estate management			
Petty trading			
Food vending			
Selling of water			
Sales of processed agricultural products			
Specify others			
<i>Local formal employment</i>			
Teaching			
Nursing			
LGA civil service			
LGA night guard			
Specify others			
<i>Migratory wage services</i>			
Casual skilled and unskilled labour			
Specify others			

Section L: Socioeconomic status of respondents

26. Kindly indicate the level of your possession of the following items

Items	Items possessed
1 Storey building in village	None []; 1 []; 2 – 4 []; > 4
2 Other houses in village	None []; 1 []; 2 – 4 []; > 4
3 House in city	None []; 1 []; 2 – 4 []; > 4
4 Children in higher institution	None []; 1 []; 2 – 4 []; > 4
5 Children that graduates	None []; 1 []; 2 – 4 []; > 4
6 Functioning vehicles	None []; 1 []; 2 – 4 []; > 4
7 Relative living under roof	None []; 1 []; 2 – 4 []; > 4
8 Number of wives	None []; 1 []; 2 – 4 []; > 4
9 Ceiling/Table/ Standing fan	None []; 1 []; 2 – 4 []; > 4
10 Wooden bed with mattress	None []; 1 []; 2 – 4 []; > 4
11 Electric stove	None []; 1 []; 2 – 4 []; > 4
12 Size of farm	<6ha []; 6 – 10 ha []; > 10ha []
13 Floor rug	No []; Yes []
14 Dining table	No []; Yes []
15 Cushioned executive chairs	No []; Yes []
16 Bicycle	No []; Yes []
17 Motorcycle	No []; Yes []
18 Chieftaincy	No []; Yes []
19 Leader of any society org.	No []; Yes []
20 Member of executive org.	No []; Yes []
21. Refrigerator	No []; Yes []
22 Cooking stove	No []; Yes []
23. Pit latrine	No []; Yes []
24. Toilet with water cistern	No []; Yes []
25. Television	No []; Yes []

- | | | |
|-----|---------------------------------------|-----------------|
| 26. | Personal generator | No []; Yes [] |
| 27. | Radio cassette player | No []; Yes [] |
| 28. | Well | No []; Yes [] |
| 29. | Deep well & pumping machine/ Borehole | No []; Yes [] |
| 30. | Glass plates | No []; Yes [] |
| 31. | Modern grinders | No []; Yes [] |
| 32. | Modern Milling machines | No []; Yes [] |
| 33. | Membership of cooperative societies | No []; Yes [] |

APPENDIX 11

DEPARTMENT OF AGRICULTURAL EXTENSION AND RURAL DEVELOPMENT

UNIVERSITY OF IBADAN, IBADAN

Research title: Effects of infrastructure for livelihood activities on socio-economic status of rural dwellers in Southwestern, Nigeria

Focus Group Discussion Topic Guide

Date of FGD.....

Name of Moderator.....

Name of Note taker.....

Name of Community.....

LGA.....**State**.....

Language Used.....

Guideline Questions for FGDs

1. What religion do you practice?
2. What is your marital status?
3. How many people are feeding from your pot?
4. Can you read or write?
5. What is your main occupation?
6. Is there any other occupation you are engage in apart from your primary occupation?

7. Do you belong to any social organisation? If yes, what is your position there?
8. How long have you been in your primary occupation?
9. What are the sources of labour on your farm?
10. How much do you earn as income from your enterprise daily?
11. How would you value your entire enterprises in Naira?
12. What are the infrastructure that are available to you for your livelihood activities?
13. Who are the providers of those facilities? Is it government or non- governmental agencies (NGOs)?
14. These infrastructure mentioned above
15. How accessible are these infrastructure to you?
16. How often do you use these accessible infrastructure?
17. What are those challenges/constraints that inhibit effective use of these infrastructure and to what extent do they affect your livelihood activities?
18. As a farmer, what are the infrastructure that you use for the different livelihood activities like:
 - On-farm activities
 - Off-farm activities
 - Non-farm activities
 - Local trade
 - Local formal employment
19. How often do you involve in those livelihood activities?

20. Does this available infrastructure that you use have effects on your livelihood activities?
21. Finally, does the infrastructure you use in different livelihood activities have any effects on your socio-economic status (SES)? If yes, in what ways?

APPENDIX III



Plate 3: Researcher with group of men during FGD in Ode-Ekiti Gbonyin LGA, Ekiti State



Plate 4: Researcher with group of women during FGD in Ode-Ekiti Gbonyin LGA, Ekiti State



Plate 5: Dilapidated fishery site at Oke-Oje Community, Ayedaade LGA, Osun state



Plate 6: Condition of roads at Oke-Bola Community, Ayedaade LGA, Osun state



Plate 7: Researcher interviewing group of women in Osun state



Plate 8: Researcher interviewing group of men in Osun state



Plate 9: Dilapidated electricity pole in Olufi Community, Ayedaade LGA, Osun state