CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Nigeria has the largest black population in Africa and the entire world and for this primary reason is regarded as the giant of Africa (Ottuh, 2015). National Population Commission (NPC, 2006) stated that Nigeria's population is above one hundred and fifty million, and is still increasing at a very rapid rate. Oramah (2006) while citing Department for Petroleum Resources (DPR) clearly reported that Nigeria has a growth rate of about 2.56%. According to him, DPR insisted that at this growth rate, it will take Nigeria approximately 27 years to double its size.

It is worthy of note that out of this great population highlighted above, the Nigerian agricultural sector shoulders the responsibility of being the largest employer of labour, with more than 75% of the nation's population involved in one form of agricultural related activity or another (Adenike, 2012). Adenike (2012) further explained that this is usually the case for most developing nations of the world where agriculture is a major pillar and the most vital production sector of the economy. This position was also affirmed by Nwajiuba (2012) who believed that Nigeria is an agrarian country, since majority of her high population earn their living though agriculture or agro-allied activities.

It is however disconcerting that even though agriculture is the pillar of the Nigerian economy, most persons employed in the sector operate at a subsistence level. Usman (2006) puts it more succinctly by stating that about two-thirds of Nigerians engaged in the agricultural sector are subsistence farmers who are low income earners.

This persistent low income generated by the majority of persons employed in the agricultural sector has become a major source of concern for all and sundry. Development economists have in fact attributed the present economic situation in Nigeria to the poor performance of the agricultural sector. According to Ajakaiye, Jerome, Nabena, & Alaba (2016), it has become a paradox for the Nigerian economy to be growing from strength to strength, while majority of the populace (who are majorly involved in agriculture or agro-allied activities) get poorer and poorer by the day; so that even though the country's real Gross Domestic Product (GDP) growth rate is on the increase, it has not been translated to any real improvement in standard of living for the masses in terms of increased income generation, improved living conditions and poverty reduction for the entire citizenry. Nwafor, Ehor, Chukwu, & Amuka (2011) believed that one major sector that has a critical role to play in increased earnings and living conditions of Nigerians is the agricultural sector, since over 40% of the GDP comes from the sector and it employs over 60% of the working population. Nwafor *et al.* (2011) further opined that since most people

engaged in the agricultural sector have low income, thus making it imperative to tackle agricultural underdevelopment, which will in return increase the income of stakeholders in the sector. Oyakhilomen and Zibah (2014) were of the position that in countries like Nigeria where the share of agriculture in overall employment is large, significant growth in agricultural incomes of Nigerians is essential to stimulate growth in the overall economy. Garvelink, Wedding, and Hanson (2012) also believed that in order to support broad-based poverty reduction and increased standard of living for Nigerians, smallholder agriculture must be a central focus for all and sundry. It is therefore evident that the sheer size of agriculture in the Nigerian economy makes it imperative to emphasize agriculture in strategies designed to promote economic growth.

Strategies targeted at raising incomes of Nigerians should focus more on the agricultural sector than the industrial sector since the agricultural sector has greater potentials for increased earnings and entry access for the poor (Omorogiuwa, Zivkovic and Ademoh, 2014). Omorogiuwa *et al.* (2014) also noted that even though the industrial sector is important for boosting the economy, it fails to create sufficient employment opportunities for the poor and unskilled workers. Omorogiuwa *et al.* (2014) believed that there was little evidence to prove that African countries could launch a successful economic transformation without going through an agricultural revolution

on a country-wide basis. Ogbalubi and Wokocha (2013) are of the opinion that the importance of the agricultural sector in increasing earnings of the populace and stimulating overall economic development in a developing country such as Nigeria cannot be undermined.

Nwagwu (2014) noted that successive governments have made robust attempts in the agricultural sector to boost food production, arrest the negative trends of poverty and raise general income and living standards for the masses through various programmes. However, most of such programmes have fallen below the expectations for which they were created mainly due to lack of continuity by successive governments. Nwagwu (2014) went further to name some of such programmes as follows: 1972 National Accelerated Food Production Programme and the Nigerian Agricultural and Co-operative Bank; 1976 Operation Feed the Nation aimed at teaching the rural farmers how to use modern farming tools; 1979 Green Revolution Programme structured to reduce food importation and increase in local food production above subsistence farming; 1986 Directorate of Food, Roads and Rural Infrastructure [DFRRI]; 1993 Family Support Programme and the Family Economic Advancement Programme; 2001 National Poverty Eradication Programme [NAPEP], designed to boost and sustain poverty alleviation programme in Nigeria.

In the search for a lasting solution for the poor income generation in the agricultural sector, a growing number of scholars believe agricultural cooperatives can be used to boost members' agricultural income thereby addressing the persistent challenge of poor income generation by majority of persons engaged in the agricultural sector in Nigeria. According to a research carried out by Wayama, Develtere and Pollet (2008), cooperatives in Kenya generated steady earnings for over eleven thousand persons in the agricultural sector alone, not mentioning other sectors. This same research also revealed that agricultural savings and credit cooperatives in Ethiopia have generated self employment for over four hundred thousand persons through extending small loans to micro-entrepreneurs. Here in Nigeria, cooperatives have not been left behind; Agba and Ushie (2014) revealed that cooperatives through their various activities have provided steady income for hundreds of persons in different sectors of the economy, especially in the agricultural sector.

Innocent and Adefila (2014) further opined that government and donor agencies in their bid to assist the large number of persons engaged in the agricultural sector, have re-emphasized co-operatives as a strategy to help individual farmers who are saddled with numerous obstacles and challenges inhibiting them from experiencing improved livelihood. They believe cooperatives can be instrumental in promoting improved income

and living conditions for small-holder farmers, who form the majority in the agricultural sector.

1.2 Statement of the Problem

Even though Nigeria's GDP is on the increase, unfortunately, the same cannot be said of the real income available to majority of Nigerians and consequently standard of living of the populace (Ajakaiye *et al.* 2016). High rate of unemployment, poor and inconsistent incomes, unsteady jobs and poverty among other miseries of the populace, are the order of the day. Government's effort in implementing policies that will help provide decent and steady income for most Nigerians has not yielded much impact as there is still a very wide disparity between the rich and the poor. (Taiwo and Agwu, 2016).

Many scholars believe that the increasing security challenges presently plaguing Nigeria is not unconnected to the growing number of persons without decent employment, income or pay. According to Adesina (2013), many persons have become attracted to criminal activities such as: armed robbery, kidnapping, insurgency, human trafficking, prostitution, ethnic conflicts, and deadly killings such as the ones purported to be carried out by the Fulani Herdsmen and the *Boko Haram* sect. Hundreds of Nigerians

and some foreigners resident in the country have been killed as a result of one violent crime or the other, while property worth millions of naira have also been lost to insecurity in the country. The various security challenges being faced by the country have been attributed to desperation of the poor, idle and hungry youths of the country who struggle to provide daily life sustenance without much support from any quarters; the high level of insecurity this poses to the country can never be over emphasized.

Due to economic recession and collapse of major infrastructures within the economy, many business organizations which provide income and a means of livelihood for people, are fast closing shops (Fapohunda, 2012). It is very important to note that many workers in the few business organizations in Nigeria that struggle to pay salaries as and at when due, have come to realize that their pay checks are grossly inadequate to meet most of their basic needs due to increasing costs; they grapple with lack and want midway into the month awaiting the arrival of the next paycheck. In other cases, salary earners suffer untold hardship due to irregular payment and delay of the meager salaries, which may run into months or even years. Due to the economic downturn witnessed in the country, most companies were forced to downsize their workforce, bringing untold hunger and hardship to the populace. Furthermore, many companies in the textile, steel, and Nigerian Railways have folded up while many manufacturers are experiencing low turnovers in their businesses. Private firms that provide

means of livelihood for Nigerians are gradually shifting base to other West African countries.

Most scholars are of the opinion that at this stage of growth in the Nigerian economy, close attention should be given to the agricultural sector than the industrial sector since the agricultural sector has greater potentials for increased earnings and entry access for the poor (Omorogiuwa, Zivkovic and Ademoh, 2014). They opined that the agricultural sector focuses more on creating sufficient employment opportunities for the poor and unskilled workers who are in the majority, and therefore should be in the prime light.

However the agricultural sector is not without its own challenges. Innocent and Adefila (2014) opined that since most farmers in Nigeria operate at subsistence level and are poor income farmers, they lack access to varieties of improved seedlings and planting materials, access to land, access to modern farming implements, access to funds, and experience wastages of farm produce after harvest due to poor storage facilities amongst other challenges.

In an effort to overcome some of these issues, scholars have re-emphasized co-operatives as a strategy to strengthen small-holders' livelihoods by linking them to national and international markets. Bailey in Babalola and Tiamiyu (2013) opined that agricultural cooperatives remains one of the

best effective institutional intervention for achieving sustainable employment generation in the agricultural sector.

Agricultural cooperatives have been known from time immemorial to provide services such as credit; farm input supply, processing, marketing and extension services to members (Nnadozie, Oyediran, Njouku & Okoli, 2015); however the specific influence of such services on members' income generation have not been well identified, hence the need for this work. This study intends to investigate precisely how, and to what extent agricultural cooperative services influence members' income generation. The area under focus – Imo state has very fertile and arable land and is known to be actively involved in agriculture; hopefully it will help the researcher do justice to this inquiry.

1.3 Objective of the Study

The broad objective of this study is to examine the influence of agricultural cooperatives on members' income generation in Imo State, Nigeria.

The specific objectives of the study are to:

1. Describe the socio-economic characteristics of members of agricultural cooperatives in the study area.
2. Determine the influence of cooperative credit on members' income generation in the study area.

3. Determine the influence of cooperative farm input supply on members' income generation in the study area.
4. Determine the influence of cooperative marketing and processing services on members' income generation in the study area.
5. Determine the influence of cooperative extension services on members' income generation in the study area.

1.4 Research Questions

1. What are the socio-economic characteristics of members of agricultural cooperatives in the study area?
2. What influence does cooperative credit have on members' income generation?
3. What influence does cooperative farm input supply services have on members' income generation?
4. What influence does cooperative marketing and processing services have on members' income generation?
5. What influence does cooperative extension services have on members' income generation?

1.5 Hypotheses of the Study

The following null hypotheses were formulated to guide the study.

$H0_1$ Cooperative credit has no significant influence on members' income generation.

$H0_2$ Cooperative farm input supply services have no significant influence on members' income generation.

$H0_3$ Cooperative marketing and processing services have no significant influence on members' income generation.

$H0_4$ Cooperative extension services have no significant influence on members' income generation.

1.6 Scope of the Study

This study on 'Agricultural cooperatives and Members' Income Generation in Imo state, Nigeria' was carried out between January and September 2017, with the aim to determine the influence of agricultural services such as: cooperative credit, farm input supply, marketing, processing, and extension services on members' agricultural income. However, it is important to note that the components of non-agricultural income of members of cooperatives as well as services rendered by non agricultural cooperatives are considered beyond the scope of this study.

The study was carried out on twenty-seven (27) agricultural cooperatives in Imo state, selecting one cooperative from each LGA of the state.

1.7 Significance of the Study

This study will guide policy makers, agricultural planners, management of various farm groups, researchers, farmers and the general public who are interested in creating opportunities for improved earnings in the agricultural sector. This work will help throw more light on those cooperative services that have proven to generate higher income for farmers in the past so that more can be done to strengthen them.

To policy makers such as the Federal, State and Local governments, law makers, agricultural development agencies, international and donor agencies, this study will serve as a reference point for taking decisions. Also, this study will reveal areas that show great prospects for partnership with other organizations of like minds to deliver financial emancipation to members of local cooperatives. Local farmers will find this study extremely useful on how to become financially self-sufficient and fulfilled

Researchers will find this study useful and interesting both as a reference for study on agricultural cooperatives services and the ways they can influence farmers' earnings positively, as well as related subjects for further

studies. Finally, members of the public will learn ways agricultural cooperatives can be employed to solve the challenge of inconsistent and poor earnings that are usually attributed to the agricultural sector. Summarily, this study will show the overall relevance of agricultural cooperatives in boosting farmers' income as a whole.

1.8 Limitations of the Study

This research work was not without its own challenges. One major difficulty encountered was that some farmers did not keep adequate record of their activities, so that it became difficult to obtain some relevant data. In such cases, they were encouraged to give estimates so as to arrive at the closest possible correct data. Another major challenge was that many of the farmers were not very literate. This was overcome through going through the questionnaire with them to ensure they fully understood it. Lastly, in some cases, the respondents were not positively disposed to exposing details of their business. However they later opened up when they were assured that their responses will be handled with utmost confidence.

1.9 Definitions of Terms

- **Agricultural Income**: Earnings in cash or kind resulting from any economic activity in the agricultural sector.
- **Non Agricultural Income**: Earnings in cash or kind resulting from any economic activity outside the agricultural sector.
- **Agricultural Cooperatives**: An association of persons (engaged in the agricultural sector) that pull resources together to solve their common socio-economic interests.
- **Cooperative Credit**: loans and micro credits members of agricultural cooperatives receive from their societies for boosting their agricultural-related business.
- **Cooperative Farm Input**: A variety of planting materials, chemicals and farm implements, agricultural cooperatives provide for their members to boost their business.
- **Cooperative Marketing and Processing**: All the range of services agricultural societies provide for members' business to enable members' produce reach the ultimate consumers in good condition or in a modified state.
- **Cooperative Extension**: All manner of education, training and information, agricultural cooperatives provide for their members in

order to enable them apply modern techniques to their agricultural-related business.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The review of related literature for this study was done under the following:

- Conceptual Review
  - Concept of Income
  - Categories of Income Generated by Farmers
  - Agricultural Income
  - Concept of Cooperatives
  - Agricultural cooperatives
  - Major Services of Agricultural Cooperatives and their Influence on Members' Income Generation
- Conceptual Framework
- Theoretical Framework
- Empirical Literature
- Summary of Reviewed Literature
- Gap in Literature

2.1 Conceptual Review

2.1.1 Concept of Income

Income provides a measure of the resources available to an individual or household for consumption and saving. For most people, income is the most important determinant of economic well-being. Camberra (2001) broadly defined income as receipts, whether monetary or in kind, received at annual or more frequent intervals, and are available for current consumption. Smeeding and Weinberg (2001) opined that income is any regular or irregular cash or non-cash proceeds, received in the form that can be spent or consumed immediately. They further explained that if further action must be taken to convert such proceeds to spendable income (such as selling equity shares or exercising stock options), then such should not be considered as income. Hill and Bradley (2015) classified income into total and disposable income. They defined total income as involving all economic gains derived from employment, property transfers and social transfers (including pensions) excluding capital gains on property. However, they believed total income alone is not sufficient to determine a person or household's standard of living. They suggested that net disposable income will best explain how a person faired economically. They further explained that net disposable income would be derived at after

deducting personal taxes and other compulsory payments from total income.

Hill and Bradley (2015) believe that there is an urgent need to improve the average disposable income of farmers since most of them have disposable income that tend to place them in poverty, where they struggle to provide life's basic necessities.

2.1.2 Categories of Income Generated By Farmers

Most households that operate in the agricultural sector are also active in other sectors of the economy. Ranganathan (2013) opined that generally, farmers generate income from two major sources namely; on-farm and non-farm activities, where he stated that according to the study he conducted, income from non-farm activities only generated income for farmers to the tune of about 8.4% while the remaining majority was generated from on-farm activities. Ranganathan (2013) further categorized on-farm income into three major groups namely; income from crop cultivation, income from rearing of animals and income from wages. Hill and Bradley (2015) opined that over a third of farmers are known to engage in other gainful economic activities that yield income outside the field of agriculture. It is for this reason they decided to classify incomes accruable to farmers into two major groups namely: agricultural income and non-agricultural income.

Even though most agricultural households are recipients of certain income proportions from outside agriculture; they receive substantial, if not majority proportion of incomes from the agricultural sector, making them rely heavily on agriculture for life sustenance. It is therefore pertinent to examine the proportion and rate of income accruing to the total income of farmers from the agricultural sector of the economy.

2.1.3 Agricultural Income

Wanyama *et al.* (2008) believed that out of the various employment opportunities (wage employment, self employment and spill-over employment) provided by agricultural cooperatives, direct wage employment presents the least contribution to income-generation due to the fact that the majority of cooperatives are small pockets of primary societies that have lesser capacities to attract and sustain large number of salaried staff .

Fields (2013) opined that generally, income earned by farmers is made up of two major components namely; income that is obtainable from agriculture and income derived outside of agriculture. He believed a farmer's rate of income from agriculture is simply measured by the percentage of his agricultural income over total income.

An individual can earn a living through engaging in various economic activities from different sectors of the economy as he chooses. However, the income that accrues to him from the agricultural sector becomes his agricultural income.

Markussen, Fibæk, Tarp & Tuan (2017) in their article 'The Happy Farmer: Self-Employment and Subjective Well-Being in Rural Vietnam Kumar' provided that to determine the rate of agricultural income, one has to calculate the percentage of agricultural income over the total income (agricultural and non-agricultural income) earned. We shall be adopting this method of self employment formula for this study.

Kumar, Wankhede & Gena (2015) are of the opinion that agricultural cooperatives have inherent advantages in increasing farmers' income since they have shown ability to handle challenges militating against farmers. Ogbalubi and Wokocha (2013) posited that government here in Nigeria have shown they believe in the income generation potentials of cooperatives. This they revealed through their continual effort in promoting economic self reliance in agriculture, through sensitizing people on the need to join or form agricultural co-operatives.

2.1.4 The Concept of Cooperatives

A co-operative is a form of organization, wherein persons voluntarily associate together, on the basis of equality for the promotion of their economic interests. They are voluntary organizations with persons that have common interest and are guided by service motive. Cooperatives are non-profit making voluntary organization where members associate on the basis of equal rights to obtain economic and social benefits for themselves; they are owned, controlled and are operated for the benefit of their members (Mcleod, 2006). However, the most universally accepted definition of cooperatives was given by International Cooperative Alliance (ICA, 1995) which believes that cooperatives are autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically controlled enterprise.

The diversity of cooperatives makes its classification quite difficult, since they exist in nearly every sector of life and perform multiple functions for members. Onyima and Okoro (2009) indicated that cooperatives can be classified in any number of ways such as; number of functions performed, gender, registration status, members' economic status, hierarchy and even the sector of the economy where the cooperative operates. One major classification of cooperatives that cannot be disputed is classification

according to sector of the economy where the cooperative operates. According to this method of classification, Federal University of Agriculture, Abeokuta (FUNAAB, 2017) classified cooperatives into agricultural and non-agricultural cooperatives. This agrees with Burt (2004) who believed that because of the complexity of classification in cooperatives, it is easy to divide them between agriculture and non-agricultural cooperatives. Onyima and Okoro (2009) further opined that while the agricultural cooperatives involved all cooperatives that operate within the agricultural sector, the non-agricultural cooperatives included industrial cooperatives, trading cooperatives and service cooperatives. For the purpose of this study, we shall therefore classify cooperatives into agricultural and non-agricultural cooperatives.

2.1.5 Agricultural Cooperatives

Agricultural cooperatives are usually organized to cater for needs in the agricultural sector. Ijere (1998) believes that agricultural cooperatives are cooperatives whose members are agricultural producers or are involved in agro-related activities. Ortmann and King (2007) while citing Cropp & Ingalsbe, opined that agricultural cooperatives can be classified into three broad categories according to their major activities namely; Marketing Cooperatives (which may bargain for better prices, handle, process or manufacture, and sell farm products on behalf of members), Farm Supply

Cooperatives (which may purchase in volume, manufacture, process or formulate, and distribute farm supplies and inputs such as seed, fertilizer, feed, chemicals, petroleum products, farm equipment, hardware, and building supplies), and Service Cooperatives (which provide services such as trucking, storage, ginning, grinding, drying, artificial insemination, irrigation, credit, utilities, extension and insurance).

FUNAAB (2017) categorized agricultural cooperatives into the following types;

- Agricultural Producer Cooperatives
- Agricultural Produce Marketing Cooperatives
- Agricultural Thrift and Credit Cooperatives
- Agricultural Consumer Cooperatives
- Multipurpose Cooperative Societies

For the purpose of this study, we shall focus on this categorization of agricultural cooperatives and briefly discuss them.

❖ **Agricultural Producer Cooperatives**

Agricultural Producer Cooperatives are cooperatives made up of producer members that serve themselves through cooperative marketing, support and purchasing. Macpherson and Walsh (2003) believed that producer cooperatives could come in different variations depending on the members' needs at any given time. They mentioned some examples of such variations

namely; production cooperatives, supply cooperatives, farm machinery cooperatives and so on.

- **Agricultural Produce Marketing Cooperative Societies**

These are cooperatives whose primary functions are to collect and market farm produce on behalf of members who produce such market produce. Siddique (2015) defined agricultural produce marketing cooperatives as the association of agricultural producers for marketing their products. Major services carried out on behalf of members include; grading, standardization, packaging and processing before sales. Usually members of marketing societies are paid patronage dividends depending on the amount contributed by the total business. They could also engage in processing of members' farm produce since most agricultural cooperatives combine marketing and processing functions together.

- **Agricultural Thrift and Credit Cooperative Societies**

World Council of Cooperative Thrift and Credit Society (WOCCU) in Akerele, Aihonsu, Ambali, & Oshisanya (2014) defined Cooperative Thrift and Credit Society as non-bank financial institutions owned and controlled by members. It is also a democratic, member-owned financial co-operative. As financial intermediaries, Cooperative Thrift and Credit Society finance their loan portfolios by mobilizing members' savings and shares rather than using outside capital, thus providing opportunities for generations of

interests for members. Cooperative Thrift and Credit Society exist to serve their members and communities. As 'not-for-profit' cooperative institutions, Cooperative Thrift and Credit Society use excess earnings to offer members more affordable loans, a higher return on savings, lower fees or new products and services. Ayanwale and Bamire (2000). Cooperative Thrift and Credit Society provide members the opportunity to own their own financial institution and help them create opportunities such as starting small businesses and enjoy income of their own. They can both be found in the agricultural and non-agricultural sectors

- **Agricultural Consumer Cooperatives**

These are cooperatives that own and operate shops where they sell consumer agricultural goods that are in regular demand by members. They pay dividends based on the amount of patronage gotten from members. Such societies can also sell to non-members as well. According to Zeuli and Cropp (1980), Agricultural Consumer cooperatives are a specific type of purchasing cooperative that purchase high quality consumable agricultural goods on behalf of members

- **Farmers' Multi-purpose Cooperative Societies**

Kuch (2013) defined multipurpose cooperatives as a cooperative which engage itself with multifunctional activities. According to him, the role of these multipurpose cooperatives is to attain social and economic

empowerment of members and sometimes non-members so as to positively change living standard through all the citizens. Agricultural multi-purpose cooperative societies are cooperatives that perform more than one single function for its members who are mostly farmers. The functions performed could be production, marketing, credit, or input supply services.

2.1.6 Major Services of Agricultural Cooperatives and their influence on Income Generation

Agricultural co-operative societies in Nigeria are involved in so many aspects of agricultural activities directed at giving members the support to raise their productivity and income and by extension improving their living conditions. According to United States' Department of Agriculture (1989), cooperatives increase members' income, thereby providing sustainable self employment for them through the following ways: raising the general price level for products marketed or lowering the level for farm input supplies-; reducing per-unit handling or processing costs by assembling large volumes (providing economies of scale); distributing to farmers any net savings made in handling, processing, and selling operations; upgrading the quality of farm products handled and developing new markets for members' products. Ortmann and King (2007) while citing Cropp & Ingalsbe mentioned a range of services agricultural cooperatives provide for their members namely; bargaining for better prices, handling, processing or

manufacturing, selling functions, bulk purchasing, transportation of farm produce, storage facilities, irrigation services, credit supply, extension services, insurance services as well as farm input supplies. Many of these services are beyond the scope of this study; therefore, we shall emphasize just a few services that are relevant to this study.

- **Credit Services:**

One major service cooperatives render to members is savings mobilization and extension of micro credits that have minimal charges to members for definite purposes. Cooperative loans are usually called soft loans because the terms and conditions given to members who receive it are very lenient when compared to loans from other sources like banks (Tumwine, Mbabazize and Shukla, 2015). Cooperative credit supply is an important service which ensures adequate working capital especially for small-scale farmers. According to Devi and Govt (2012) adequate and timely credit provision serves as an instrument for stimulating increase in farmers' output, thereby improving and sustaining their income. Todaro and Smith (2003) believe that the marginal savings rate of Nigerians is very poor, but when it is viewed from a holistic perspective is not small; this high mobilization of savings by cooperatives from members can constitute greater levels investments, better earnings and increased employment opportunities for cooperative members.

The critical role played by credit supply in economic development has never been in doubt either directly or indirectly in building the capacity of the small-holder farmers for increased food production and sustained income generation (Kohansal and Mansoori, 2009). Adebayo and Adeola (2008) opined that cooperative credit can go a long way in helping farmers meet their needs, expand their farms, which will ultimately increase output, and culminate in enhanced earnings and welfare conditions for farmers.

- **Cooperative Farm Input Supply Services:**

Cooperatives have also been instrumental in supplying necessary farm inputs to farmers. Farm input supply services to farmers are majorly divided into; fertilizers and chemicals, seeds and planting materials, as well as machinery and equipment. Input supply service is very important to farmers because it makes available high quality farming inputs such as seedlings and fertilizers, as well as proper information on correct application of inputs. Another great advantage of supply services are regular supply of inputs especially during times of scarcity, as well as extension of inputs on credit to credit trapped farmers. Randrianarisoa and Mintel (2005) believe strongly that there is explicit link between increased cooperative input supply, agricultural productivity increased income and ultimately, improved living conditions for farmers.

All these services on farm input supply serve not only to increase farmers' output, but to increase their income and sustain improved living standards and employment conditions.

- **Marketing and Processing Services:**

Cooperative marketing goes beyond buying and selling services, it involves a much more extensive service delivery than this simple description. Cooperative marketing function includes all business activities involved in the flow of goods and services from producer farmers to ultimate consumers. This flow of goods and services usually involve major participants like the producers (usually farmers), traders and consumers.

For a marketing system to be operative and effective, there are three general types of functions which it must provide; exchange functions (buying, selling, pricing), physical functions (assembling, transport and handling, storage, processing and packaging, grading and standardization) and facilitating functions (financing and risk-bearing, market information, demand and supply creation, and market research).

Cooperatives have been instrumental in improving marketing efficiency, through reduction of marketing costs, providing on-time and efficient delivery systems and counteracting imperfect competition among buyers; which results in increased bargaining power for producer members.

Marketing functions of cooperatives allow for specialization of activities, which leads to enhanced resource-use efficiency and economic growth. Hayami, Kawagoe, Morooka, & Siregar (1988) posited that reports show that cooperative farm input supply services add to rural income and employment at a scale equal or even larger than those generated from farm production itself. The functions and activities of cooperative marketing ultimately increases general earnings and provide other avenues for development especially for small-scale farmers (ILRI, 1995).

Farm product processing is the alteration or modification of an agricultural product produced on a farm for the purpose of storage, transport, or sale through the addition of other ingredients or components; provided that the initial agricultural product must be the principal ingredient or component. Most agricultural cooperatives render both marketing and processing services to members, which serve to increase the value of farm produce, thereby increasing farmers' income and general welfare (Kumar, Wankhede and Gena, 2015).

- **Extension Services:**

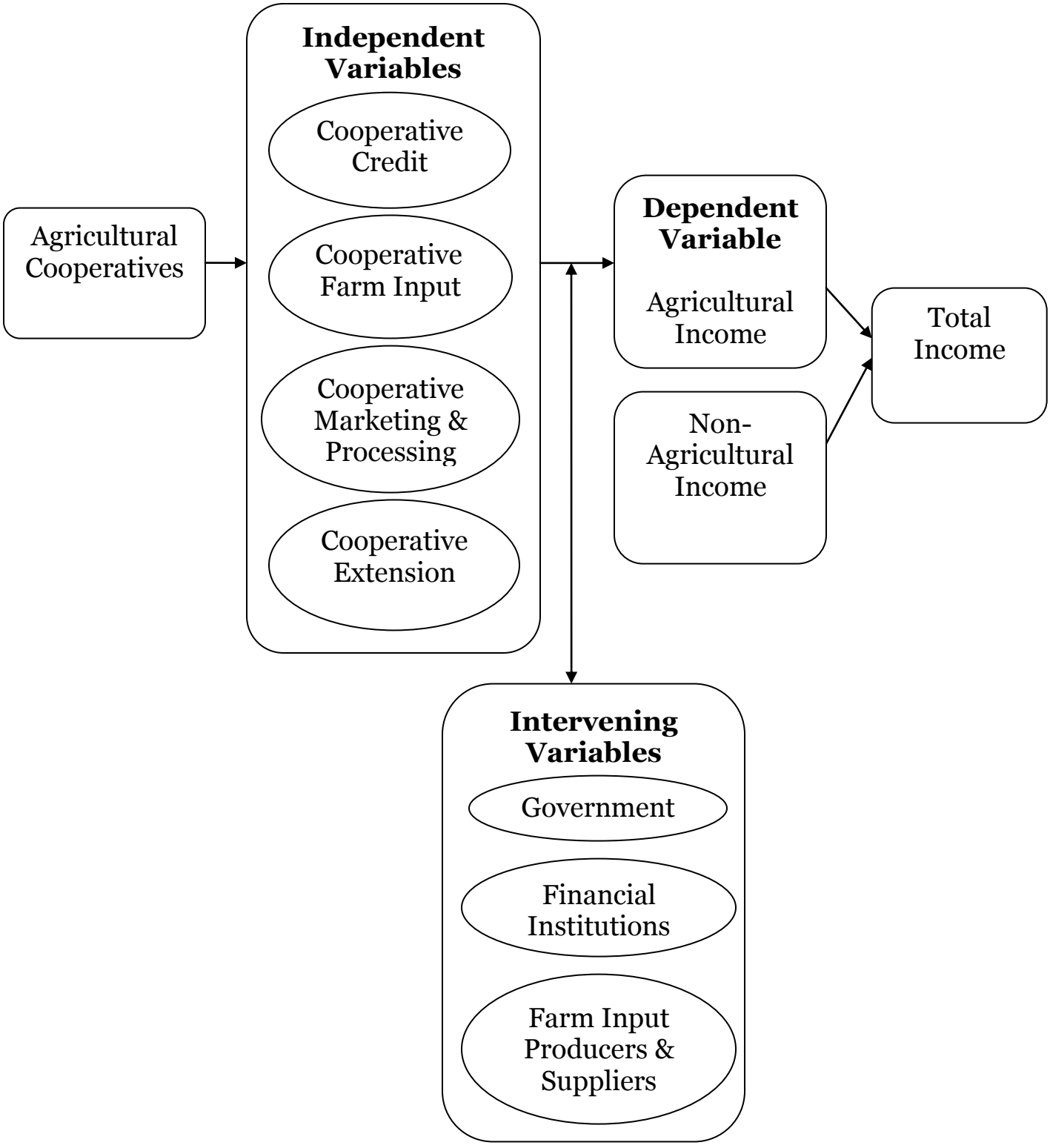
Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer education. Generally, agricultural extension can be defined as the 'delivery of information inputs

to farmers'. Obibuaku (1983) saw extension as an informal system of education meant to improve the living standard of the local people. Williams (1979) summed up three basic tasks of extension as; disseminating useful information, applying it to the analysis of practical problems and helping farmers to use it to help themselves.

For Nigerian farmers to experience improved production and income and ultimately better working conditions in agriculture, they have no alternative but to learn and adopt recommended scientific farming techniques in place of their traditional practices (Anaeto, Asiabaka, Nnadi, Ajaero, Aja, Ugwoke, Ukpongson & Onweagba, 2012).

2.2 Conceptual Framework

Figure 2.1 Agricultural Cooperative Services (Credit, Farm Input Supply, Marketing, Processing and Extension Services) and their Influence on Members' Income Generation



Source: Researcher's Conceptualization (2017)

From Figure 2.1, the conceptual framework reveals a set of services (credit, farm input supply, marketing, processing and extension services) which are the independent variables which agricultural cooperatives provide for their members. These services serve to influence members' income by boosting their agricultural income which is the dependent variable. However, Figure 2.1 also showed other factors such as: Government, Financial institutions and Farm input producers/suppliers (apart from cooperative credit, farm input supply, marketing, processing and extension services) that can also boost or reduce agricultural income of cooperative members, but have not being captured as independent variables but as intervening variables.

Policies, law enactment and execution styles of government per time can positively or negatively influence the above mentioned services agricultural cooperatives provide for their members. Also, agricultural cooperatives' accessibility of cheap micro-credits from financial institutions can also affect members' accessibility of such loans from their societies. Activities of farm input producers and suppliers can also influence the rate at which members of agricultural cooperatives can access farm input services from their cooperatives. All these factors serve to influence cooperative members' agricultural income. Members' agricultural income along with the rest of members' earnings outside agriculture (non-agricultural income), add up to give members' total income. It remains to be seen the particular influence of cooperative credit, farm input supply, marketing,

processing and extension services on agricultural income, and what proportion of that agricultural income so derived, make up members' total income.

2.3 Theoretical Framework

This study is hinged on the Social Action Theory. The Social Action Theory was founded by Max Weber. Just as the name 'micro' suggests, Social Action perspectives examine smaller groups within society. Social Action theorists see society as a product of human activity and stress the ability of individuals to exert control over their own actions. They believe the individual is no passive receptacle of society's directives, but an active creator of social behavior. So, it is society which is constructed by the individuals, and not the other way around. The Social System Theory believes human beings are capable of conscious thought and this enables them to be aware of themselves and others as social beings. They have their own motives and beliefs, and their own interpretation of the meaning of a situation and control their own actions.

Social Action Theory can be traced to the works of three main authors – James Coleman, Robert Putnam and Pierre Bourdieu (O'Brien and Fathaigh, 2005). For Coleman (1988, 1990), and Coleman & Fararo (1992), social capital, which is a major catalyst of Social Action Theory, exists in the

structure of relations between individuals and is thus largely intangible. Its potency, however, is realized in its capacity (just like physical and human capital) to facilitate productive activity. This is achieved through the formation of social relationships built up over time which enables individuals to achieve their interests over-and-above those that can only be attained independently.

❖ Relevance of Social Action Theory to the Study

The nature of agricultural cooperatives is easily explained by the Social Action Theory. Members of agricultural cooperatives engage in self-help activities through a combination of resources and thus are able to confront and overcome several socio-economic challenges confronting them to generate and sustain income for themselves, not waiting until government or society supports them. The credence of social action, as explained above appears to be the essential values of self-help on which cooperatives thrive on and which to a large extent determine their success. Certainly the social action theory is relevant to this study since it will enhance our understanding and analysis of the nature of agricultural cooperative societies which rely on members' contribution, commitment and participation for its success.

2.4 Empirical Literature

Previous related studies were reviewed, regarding the influence of agricultural cooperative services on members' income, and are hereby presented below.

- Ahmed and Mesfin (2017) examined the impact of agricultural cooperatives membership on the financial wellbeing of smallholder farmers in eastern part of Ethiopia, since most of the smallholder farmers who dominated the agricultural sector of the economy were illiterates, living on the threshold between subsistence and poverty. The study made use of cross-sectional data collected from a sample of 250 persons, using multi-stage sampling technique. It was found that joining agricultural cooperatives had a positive impact on the wellbeing of smallholder farmers. Ahmed and Mesfin (2017) concluded that cooperatives should be considered as an alternative means of improving the finances of the agrarian community. They recommended that in order to promote, deepen and support cooperatives to be more effective in promoting rural financial wellbeing, access and participation into cooperatives should be made to be more pro-poor by avoiding entry barriers in the future, and that greater efforts should be made to tackle factors that impede poor households from participating in agricultural cooperatives.

- Verhofstadt and Maertens (2014) conducted a study titled "Can agricultural cooperatives reduce poverty? Heterogeneous impact of cooperative membership on farmers' welfare in Rwanda" A three-stage stratified random sampling design was adopted to select 389 farm households to analyze the inclusiveness and effectiveness of agricultural cooperatives in Rwanda. Verhofstadt and Maertens provided that their study was necessitated as a result of the key role the Rwandan agricultural sector played as the key engine for economic development and poverty reduction, but unfortunately had most of the sector's stakeholders as subsistence small-scale farmers who were living at the borders of poverty. It was found that cooperative membership in general had a positive impact on farm income and a negative impact on the likelihood of being poor, but that the effect varies with farm size, distance to the market, and the availability of labor in the household. They recommended that cooperatives should be made to be more inclusive towards less educated, less experienced and female farmers, and for the removal of human capital constraints to entry into cooperatives – as this would not decrease the effectiveness of cooperatives to improve rural incomes.

- Kwai and Urassa (2015) assessed the contributions of Savings and Credit Cooperative Societies (SACCOS) in reduction of rural households' income

poverty in Mbozi District Council, Mbeya, Tanzania, since they noted that even though credit unions serve a significant number of persons, the poor in rural Tanzania had little or no access to credit as a means of improving their livelihoods. Cluster sampling technique was adopted to select a total of 160 respondents (80 SACCOS members and 80 non-members). Findings of the study showed that SACCOS perform different activities in the provision of financial and non-financial services to members. They provided shares, investment opportunities, savings, credit, and training on entrepreneurship skills. Also, the impact of SACCOS to income poverty reduction was significant and the respondents' attitude towards SACCOS was favourable. Kwai and Urassa concluded that SACCOS play a significant role in improving the conditions of smallholder farmers, and recommended that SACCOS should be empowered to enable them perform better and provide a range of services to members thereby helping beneficiaries to reduce their income poverty.

- Mbanza (2013) observed that majority of the Rwandan population relied on subsistence smallholder farming that yielded very little. Thus, he undertook to investigate the role of agricultural cooperatives in improving household financial security in Mwendo sector, Ruhango district of Rwanda. Mbanza believed the research was necessitated by the uncertainty of whether

agricultural cooperatives in Rwanda assist in improving financial security in their current structure and form. A research sample size of 150 cooperative members' and 20 non - cooperative members were randomly selected. It was found that cooperative members benefitted hugely from cooperative income, government assistance and skills from cooperative training in agriculture. The study concluded that even though agricultural cooperatives provided the above-mentioned benefits to their members, a lot was still required for them to do. It was recommended that government should facilitate cooperatives' use of improved equipment and inputs through offering intensive trainings on financial management, agriculture and animal husbandry which augment production. Government was also prompted to ensure provision of improved seeds without delay on delivery and affordable bank credit rate to cooperative farmers.

- Kihwele and Gwahula (2015) examined the impact of Savings and Credit Cooperative Societies (SACCOS) in Poverty Reduction. The study was justified based on the fact that poverty level and microfinance services change continuously and therefore a lot remains to be desired. Descriptive as well as multiple linear regression methods were used in the study which involved a sample of 40 beneficiaries of microfinance services. The findings revealed that microfinance services contributed 50 percent of poverty

reduction indicating the strong impact of SACCOs in poverty reduction given that the loans are invested in income generating activities. SACCOs' beneficiaries have experienced increased income, improved social services and self employment. The study further revealed that SACCOs provided entrepreneurial skills although at a very small rate and the training provided meant to create member's awareness of terms and conditions of loans and savings and not creating business skills. The study recommended that SACCOs should ensure that microfinance services provision is expanded to include large number of clients. Furthermore, SACCOs were urged to introduce entrepreneurial training to all members and ensure simultaneous provision of microfinance services and entrepreneurial skills for effective poverty reduction.

- Tefera, Bijman and Slingerland (2016) were of the opinion that even though agricultural growth remains a viable means of poverty reduction in sub-Saharan Africa, smallholder farmers faced high production and transaction costs because of underdeveloped basic infrastructure, such as all-season roads, transport and market facilities, and limited access to productive resources. This propelled them to embark on a research in Ethiopia, with the aim to discover whether co-operatives were effective in linking farmers to input and output markets and thereby supporting productivity increases

and farmer income. To do justice to this inquiry, 40 experts were purposively selected for interviews in Addis Ababa, Ambo and Arsi District of Central Ethiopia. The study found out that in Ethiopia, co-operatives have positive impact on farmer income, rural livelihood and agricultural commercialization. They recommended that agricultural cooperatives in Ethiopia should ensure a trade-off between efficiency and equity (or exclusiveness and inclusiveness) since they are transforming into more commercial organizations.

- Ojiagu and Onugu (2015) examined the effect of membership of cooperative societies on farmer members' income in rural Anambra State in Nigeria. Data was collected from a sample of 2506 members, who were selected using multi-stage stratified random sampling and was analyzed. Ojiagu and Onugu (2015) opined that since rural farmers in Nigeria were still in the subsistence class and their produce was usually basically for the family, there was need to examine the effect of cooperative membership on income generation of farmer members. The study found, among others, that members' incomes were dependent upon their socio-economic profile and membership of cooperative societies; and cooperative activities like member education, cooperative marketing, and credit increased farmer members' income in the study area. It was concluded that the present effort

of the Nigerian government to advance the development of the agricultural sector may not be significantly rewarded without complementary activities of farmers' cooperative societies. The study recommended that cooperatives should intensify member education to gain more benefits, and that government, non-governmental organizations and international development agencies should show interest in supervising and providing development support to Farmers Cooperative Societies in rural Nigeria.

- Blekking (2016) conducted a research in Choma District, Southern Province of Zambia to determine whether there was any financial benefit accruing to farmer members of agricultural societies, since the average Zambian (usually smallholder farmer), produces only enough to sustain his household and a small surplus for sale, making them subsistence farmers living within the borders of poverty. The study made use of data from a sample of 127 agricultural cooperatives that were selected using multi-stage sampling technique. The study findings indicated that farmer members of agricultural cooperatives enjoyed better bargaining power, lesser transaction costs and improved knowledge impartation, which served to increase their income and general welfare. It was concluded that Poverty alleviation and rural development could be more effectively addressed if

cooperatives can be encouraged to provide benefits of collective action to their members, rather than only serve as avenue for seed and fertilizer dissemination. It was recommended that cooperatives apart from other services they rendered, should endeavor to serve as a hub of knowledge transfer to farmer members.

- Holmgren (2012) investigated on how cooperative membership impacts on the income of the individual using the umbrella cooperative El Ceibo, operating in Bolivia, as a case study. Multistage sampling technique was used to select 144 respondents who were interviewed. It was found that a small, positive relationship exists between membership length and life satisfaction (especially with regards to income improvement), making it a fact that cooperative membership does impact positively on the financial well-being. However, it was also found that membership length impacted negatively on family health. In general cooperatives were found to impact positively on member income and general welfare. The study concluded that membership length in fact does have a small positive impact on the overall well-being of members, and recommended a mass sensitization on benefits of joining cooperatives in order to encourage non-members to do so.

- Wanyama, Develtere and Pollet (2008) did a study in eleven countries in Africa, among which were Kenya, South Africa, Rwanda and Ghana, to discover the contribution of cooperatives to poverty reduction in Africa since emphasis has quite often been based on their potential role of cooperatives rather than the actual impact, partly due to the dearth of empirical studies since the early 1990s. One of the studies carried out in Kenya in 2001 in Githunguri Dairy Farmers Cooperative Society showed that 250 members had improved income as a result of their membership in the cooperative. Generally, the study in Africa found out that cooperatives have significantly contributed to the mobilization and distribution of financial capital; created employment and income-generating opportunities; constituted a forum for education and training; and set up solidarity schemes to cater for unexpected expenses related to illness, social welfare, death and other socio-economic problems. It was recommended that cooperatives should expand their reach to cut across a wider range of persons.

- Getnet and Anullo (2012) conducted a study to evaluate the livelihood impact of agricultural cooperatives in Sidama zone, Ethiopia. They stated that the study was necessitated due to the fact Ethiopia showed a renewed interest in recent years in promoting cooperative sector development, but

was challenged with the lack of a wider and systematic analysis to produce sufficient empirical evidence on the livelihood development and poverty reduction impacts of cooperatives in the country. Using a matching technique on rural household income, saving, agricultural input expenditure and asset accumulation as indicator variables. The findings showed that cooperatives improved the livelihoods of service user farmers through impacting better income, more savings and reduced input costs. In view of such evidence, further promotion, deepening and supporting of agricultural cooperatives is recommended.

- Oluyombo (2013) conducted a research in Ogun State, Nigeria in order to assess the Impact of Cooperative Finance on Household Income Generation in rural areas where there is no bank or other formal financial providers. Using a questionnaire technique distributed to a sample of 302 respondents, the study covered the activities of cooperative societies located in rural communities and villages outside the state capital and local government headquarters where there is no electricity, water, and tarred road. Data was analysed using chi-square, t-test, ANOVA, and effect size. The study found that participation in a cooperative was associated with increase in household income, while membership duration, house ownership, and marital status were the three variables that contributed

significantly to the increase in household income reported by members in addition to the program loan. However, there was no difference in the number of increase in household income reported based on marital status of the members. The study concluded that the use of cooperative loan increases household income level of the borrowers because the loan serves as additional investment and, therefore, helps to improve economic position for better living standard of the members. It was recommended that cooperatives should device ways of reaching the rural people with loan product and to disabuse the minds of doubters that rural dwellers have no need for loan in growing their household income.

- Sumelius, Tenaw, Bäckman, Bee, Chambo, Machimu & Kumburu (2013) did a study in Tanzania with the aim to provide an analysis and make policy recommendations on how Finland can promote inclusive people-centred businesses for poverty reduction by supporting the cooperative business model in Tanzania. To assist deliver this aim, 11 cooperatives were purposively selected and interviewed. The findings revealed that cooperatives in the study area significantly improved members' income and general living conditions. It was recommended that cooperatives should develop cooperative actions at village level to empower farmers to seek other opportunities to address risks, gain access to financial services,

encounter more economic opportunities and improve the democratization processes.

- Kareem, Arigbabu, Akintaro & Badmus (2012) did a research to determine the impact of cooperative societies on capital formation using a case study of Temidere Cooperative and Thrift Society, Ijebu-ode, Ogun State. The objectives were to: identify the socio-economic characteristics of the cooperators in the study area; identify the uses of funds of co-operative societies; determine to what extent cooperatives have benefited members in financing their investments; identify problems militating against the effectiveness of cooperative societies; and offer suggestions and recommendations on how to improve the cooperative societies towards enhancing the capital formation of members. Questionnaires were randomly distributed to members of the society and a non-parametric method of analysis was adopted to analyze the data. The findings revealed that the cooperative society offered better services to members to increase their income by charging low interest rate on the loan collected, also the cooperative helped to improve business entrepreneurial, thus playing a leading role in poverty reduction and emphasized on the welfare of its members by emphasizing improved income and monitoring expenditure of income. It was recommended that the government should assist

cooperative societies to improve their capital base through the annual budget of the country.

- Bachke (2005) conducted a study in Mozambique to determine the causal effect on small-scale farmers' income from being member in a farmers' cooperative organization. A sample size of 6149 was purposefully selected throughout 80 districts in Mozambique between 2002 and 2005, and their data analysed. The main finding of the study was that the effect of membership among small-scale farmers on agricultural profits is positive, while the effect on the value of plant production was not significant, indicating that farmers' cooperatives to a larger extent focused on production or crops relevant for the market than for production for own consumption. It was recommended that in order to generally aid to farmers in improving their total economic and general wellbeing, it was necessary to establish and sensitize people to join farmers' cooperatives.

2.5 Summary of Reviewed Literature

Reviews were made on various studies relating to the influence of agricultural cooperative membership on members' income and general well being. Most of the reviews agreed that members' incomes were dependent

upon their socio-economic profile such as age, marital status, and membership or otherwise of cooperative organizations. Also, most of the studies reviewed consistently agreed that cooperative services like credit, farm input access, marketing, processing, member education and extension, as well as infrastructural services provision served to increase members' income and general well being. Majority of the recommendations made were consistent with sensitizing more people to join cooperatives in order to enjoy increased income.

2.6 Gap in Literature

Quite a number of works on the contributions of agricultural cooperatives services to members' income generation have been carried out by different researchers. Various types of agricultural cooperatives, their services and how they generally improved members' income and welfare have been examined. However, inspite of all these works that were carried out, not much have been discovered on the **proportion of agricultural income** that was generated by cooperative members as a result of services provided by their various cooperatives, since this will help determine which services helped most in boosting members' income, and will go a long way in helping stakeholders focus effort on activities that will significantly produce desired results. There is, therefore, a dearth in this area. This study on 'Agricultural Cooperatives and Members' Income Generation in Imo State'

will make an original study in this regard. At the end of this study, this gap would have been adequately filled.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

The research design adopted in this study is the Survey Research Design. This type of design involves gathering and describing the characteristics of the population of the study. This design was employed to gather in a systematic way, data on the selected sample of the study, after which results gotten thereby was used to make inferences on the population under study; with the aim to determine the influence of agricultural cooperative services on members' income generation. A well structured questionnaire was used to study opinions, perceptions and attitudes of people within the sample under study.

3.2 Area of Study

The study was carried out in Imo State, Nigeria. Imo state is located in the south-east region of Nigeria. The State is divided into twenty-seven local government areas (LGAs) which are spread under the three senatorial zones and about 700 autonomous communities in the State. The capital of Imo State is Owerri, which is its largest city. Imo State is located between Anambra State in the North, Rivers State in the South, Akwa Ibom State to the East and Delta State to the West. The State lies within latitudes 4°45′N

and 7°15′N, and longitude 6°50′E and 7°25′Es with an area of around 5,100 sq km. It has an estimated population of over 4.8 million people, with population density varying from 230–1,400 people per square kilometre. In addition to English being official language, Imo State is a predominantly Igbo speaking State, with Igbo people constituting a majority (98%) of the population; Christianity is the predominant religion.

The State experiences two major seasons; the rainy season and the dry season. The rainy season begins in April and lasts until October. Imo State has an average annual temperature above 20 °C (68.0 °F) which creates an annual relative humidity of 75%, with humidity reaching 90% in the rainy season. The dry season experiences two months of Harmattan from late December to late February. The hottest months are between January and March.

The economy of the State depends primarily on agriculture and commerce. The chief occupation of the local people is farming. The State also produces agricultural produce such as palm produce, cocoa and rubber. The main staple crops are yam, cassava, cocoyam and maize. The State is blessed with abundant natural resources such as; crude oil, lead, zinc, white clay, fine sand, limestone and natural gas in commercial quantities.

3.3 Population of the Study

The population of the study is made up of one hundred and forty-five (145) agricultural cooperative societies in all of the 27 LGAs of Imo State. These 145 agricultural cooperatives have a total population of seven thousand, and twelve (7,012) members which constitutes the population of the study.

3.4 Sampling Technique and Sample Size

The sample size was statistically derived using the Taro Yamane Formula- since the population size is known (7012 membership, as derived from totaling membership of all the agricultural cooperatives in the 27 local government of Imo state). The Taro Yamane statistical formula for deriving sample size is given as thus:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample Size

N = Population

1 = Constant

e = error term (0.05)

From the above

N = 7012

Thus,

$$n = \frac{7012}{1 + 7012\,(0.05)^2}$$

$$n = 378$$

Therefore the sample size was derived as 378 respondents.

In determining how to select the 378 agricultural cooperative members that will be administered the questionnaire from the rest of the population of 7012 (members of all the agricultural cooperatives in Imo state), Multi-Stage Sampling Technique was adopted. Just as the name implies, different sampling techniques were used at each stage of the sampling process. In stage one, one (1) agricultural cooperative was purposefully selected (based on their viability, as advised by the chief cooperative officer) from each Local Government Area to arrive at twenty-seven (27) agricultural cooperatives. In stage two, fourteen (14) members were randomly selected from each of the twenty seven (27) selected cooperatives (since getting 14 members from each of the 27 cooperatives will give a total of 378 respondents).

Table 3.1 List of Selected Cooperatives and Number of Selected Respondents from Each Cooperative

S/N	LOCAL GOVT	NAME OF SOCIETY	MALE	FEMALE	TOTAL
1	Aboh Mbaise	Ukwuoma Ndiigbo FMCS LTD	8	6	14
2	Ahiazu Mbaise	Oganihu FMCS LTD	7	7	14
3	Ehime Mbano	Umumba FMCS Ltd	10	4	14
4	EzinihitteMbaise	Ohaneze FMCS Ltd	10	4	14
5	Ideato North	Ehitte Group FMCS Ltd	11	3	14
6	Ideato South	Enyioma FMCS Ltd	9	5	14
7	Ihitte/ Uboma	Chinyerugo FMCS Ltd	8	6	14
8	Ikeduru	Udoka FMCS Ltd	11	3	14
9	Isiala Mbano	Youth for Agriculture FMCS Ltd	12	2	14
10	Isu	Gods Own FMCS Ltd	8	6	14
11	Mbaitolu	Ifunanya FMCS Ltd	7	7	14
12	Mgbidi	Nmasinachi FMCS Ltd	6	8	14
13	Njaba	Njaba FMCS Ltd	9	5	14
14	Nkwerre	Oganihu Nkwerre FMCS Ltd	10	4	14
15	Nwangele	Umuka Progressive FMCS Ltd	8	6	14
16	Obowo	Okerie Assa FMCS Ltd	9	5	14
17	Oguta	Obioma Atta FMCS Ltd	10	4	14
18	Ohaji/ Egbema	Ugwumba FMCS Ltd	11	3	14
19	Okigwe	Amaeze Ogii FMCS Ltd	9	5	14
20	Onuimo	Ndiogbasara FMCS Ltd	8	6	14
21	Orlu	Aladinma Women FMCS Ltd	-	14	14
22	Orsu	Ubogwu FMCS Ltd	7	7	14

S/N	LOCAL GOVT	NAME OF SOCIETY	MALE	FEMALE	TOTAL
23	Oru East	Ikenga FMCS Ltd	8	6	14
24	Oru West	Otu-Obi Beulah Women FMCS Ltd	-	14	14
25	OwerriMunicipal	Twelve Apostles Royal Farmers MCS Ltd	14	-	14
26	Owerri North	Nduhu Ugochinyere Women Coop Alliance Ltd	-	14	14
27	Owerri West	Eziobi FMCS LTD	9	5	14
Total			219	159	378

Source: Field Survey, Sept 2017

3.5 Method of Data Collection

The major source of data for this study was primary data, obtained through pre-tested and well structured questionnaire. Three hundred and seventy-eight (378) copies of the questionnaire were distributed. Information was also obtained from secondary sources such as articles published in academic journals, documents, textbooks, and internet.

3.6 Description of Data Collection Instrument

The instrument used for data collection was a well structured questionnaire which was administered to cooperative farmers. The questionnaire was divided into three sections; section A, B and C. Section A was used to obtain data on the socio-economic characteristics of the respondents. A five-point Likert Scale questionnaire format was adopted in section B to obtain data

on the type and degree of services, the agricultural societies under study provided for members. Options available for selection in section B were: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD); using a scale of 5 to 1 respectively. A decision point of 3.00 was determined by the average of: 5+4+3+2+1 divided by 5 = 3.00. Therefore, any item with a mean score from 3.00 and above was considered positive while those with less than 3.00 were deemed negative. Section C was used to collect data on agricultural and total income of farmer members.

3.7 Validity of Research Instrument

The research instrument was validated to ensure face and content validity. It was issued for validation to experts and lecturers in this field of study as well as the research Supervisor, who critically examined the tentative questions prepared in the questionnaire to captured the four (4) major services (credit, farm input supply, marketing and processing, extension services) agricultural cooperatives provided for members and the perceived influence such services had on members' income generation. The validators were given the study objectives, research questions and hypotheses to determine the items that could derive the required information. They made their recommendations and adjustments were made in line with their suggestions.

3.8 Reliability of Research Instrument

The reliability of the research instrument was established using the Test-Retest Technique. Copies of the questionnaire were administered to 20 selected respondents who are members of a Farmers' Multipurpose Cooperative Society (FMCS) in Aguata LGA of Anambra State; the same copies of the questionnaires were given to 20 members of another selected Farmers' Multipurpose Cooperative Society (FMCS) also in Aguata LGA of Anambra State. This was done to confirm whether the question items meant the same thing to all the respondents. From table 3.1, the correlation of the two sets of scores was determined using the Pearson's Product Moment Correlation as 0.83. The high coefficient indicated high consistency of the questionnaire.

Table 3.2: Correlations to test reliability of the instrument

		A	B
A	Pearson Correlation	1	.832*
	Sig. (2-tailed)		.0289
	N	20	20
B	Pearson Correlation	.832*	1
	Sig. (2-tailed)	.0289	
	N	20	20

*. Correlation is significant at the 0.05 level (2-tailed).

3.9 Method of Data Analysis

Data was analysed using descriptive statistical tools such as frequencies, percentages, mean and standard deviation. Inferential statistics (multiple regression analysis) was also employed to address issues raised in the research questions and hypotheses 1 to 4, which was then analysed to determine the effect of agricultural cooperative activities on members' income generation.

Regression Model

Multiple regression model was used to test the entire hypotheses in order to evaluate the influence agricultural cooperative services have on income generation. The regression was run using the IBM SPSS (Statistics 20) to determine the influence of the independent variables on the dependent variable. The T-test was used to perform test of significance of the explanatory variables at the alpha level of 5%.

Agricultural cooperative services (such as credit, farm input supply, marketing and processing, extension services) = Independent variables

Agricultural income = Dependent variable

The model is implicitly specified as follows;

$Yi = f(X_1, X_2, X_3, X_4.....X_n + ei)$

The models are further specified as follows;

$Yi = \alpha_o + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + ei$

Regression Analysis

Y = Agricultural Income,

X = X1 = Cooperative credit services

X2 = Cooperative farm input supply services

X3 = Cooperative processing and marketing services

X4 = Cooperative extension services

ei = Error term design to capture the effects of unspecified variables in the model.

α and βs = Parameters to be estimated

Therefore, agricultural income is a function of credit, farm input, marketing, processing and extension services.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

5.1 Socio – Economic Characteristics of Cooperative Farmers

The socio-economic characteristics of members were analyzed in terms of their sex, age, marital status, educational qualification, household size, farm size, farm experience, annual agricultural income and annual total income of farmers.

Table 4.1: Distribution of Respondents Based on Socio-Economic Characteristics

Items	Frequency (n = 378)	Percentage (100%)	Mean ($\bar{x}$)
Sex			
Male	219	58	-
Female	159	42	
Age (Years)			
≤ 20	16	4	42
21 – 40	113	30	
41 – 59	167	44	
≥ 60	82	22	
Marital Status			
Single	57	15	-
Married	291	77	
Divorced	9	2	
Widowed	21	6	
Educational Qualification			
Primary	128	34	-
Secondary	169	45	
Tertiary	81	21	
Household Size			
≤ 5	76	20	8
6 – 9	191	51	
≥ 10	111	29	
Farm Size (Hectares)			
1 – 2	178	47	2.3
3 – 4	164	44	
≥ 5	36	9	
Farm Experience			
≤ 5	21	6	10.5
6 – 9	81	21	
≥ 10	276	73	

Source: Field Survey September, 2017

Table 4.1 shows the socio-economic characteristics of cooperative farmers. It revealed that 58% of the farmers are male, while the remaining 42% are female. This indicates that men are more actively involved in agriculture than women.

Respondent farmers fell within all the age brackets provided as thus: 20 and below were 16 respondents (4%), 21 – 40 were 113 respondents (30%), 41 – 60 were 167 (44%), while 61 and above were 82 respondents (22%). However, respondents were forty-two (42) years on the average, strongly indicating that majority of the respondents were able bodied men and women that were still in their prime.

From the Table, an overwhelming number of seventy-seven percent (77%) respondents were married, fifteen percent (15%) were single, only two percent (2%) were divorced, while six percent (6%) were widowed. Thirty-four percent (34%) of farmers had primary education, forty-five percent (45%) had secondary education while twenty-one percent (21%) had tertiary education, proving that the respondents were fairly educated.

A majority fifty-one percent (51%) of the respondents had household size range of 6 – 9 persons, twenty percent (20%) of the respondents' household comprised 5 persons and below, while twenty-nine (29%) fell between the range of 10 and above. Summarily, average household size of respondents

was eight (8), implying that most of the respondents had an averagely large household size giving them the advantage of having a fair share of help from family members on their farms.

Forty-seven percent (47%) of the farmers had between 1 and 2 hectares of farmlands, forty-four percent (44%) had between 3 and 4 hectares, while nine (9%) had farmlands that fell between the range of 5 hectares and above. Average size of respondents' farmlands in hectares was 2.3. This shows that majority of farmers had small land holdings.

An overwhelming majority of seventy-three percent (73%) of respondents had farming experience of 10 years and above, twenty-one percent (21%) had between 6 and 10 years experience, while only six percent (6%) had between 5 years farming experience and below. Averagely, most respondents indicated they had over ten (10) years farming experience, indicating that most of the respondents were likely to possess great knowledge and skills in agriculture having practiced it for a long time.

Table 4.2 Distribution of Responses on Access to Credit, Farm Input Supply, Marketing, Processing and Extension Services By Members of Agricultural Cooperatives.

S/N	Type of Service Accessed	Mean	Std. Dev.	Decision
1	**Provision of Credit Services**			
a	Loans are easily accessible to members	3.87	1.202	Agree
b	Loans to members are with minimal interest charges	4.07	1.227	Agree
c	Members can obtain loans without collaterals	4.43	0.959	Agree
d	Repayment of loans are structured to lessen burden on members	2.93	1.469	Disagree
2	**Provision of Farm input Services**			
a	Members obtain farm inputs at cheaper rates	4.36	1.005	Agree
b	Farm inputs provided by society are of very high quality	3.93	1.432	Agree
c	Farm inputs are regularly supplied to members especially during scarcity	2.90	1.544	Disagree
d	Members have access to diverse varieties of seedlings and other farm inputs	4.34	0.837	Agree
3	**Provision of Marketing and Processing Services**			
a	Members' produce are usually processed (if need be) and prepared for the market	3.72	1.321	Agree
b	Members' produce are marketed at competitive prices	4.29	1.159	Agree
c	Transportation is provided to convey member produce to the market	4.01	1.183	Agree
d	Storage facilities are always provided for members	2.75	1.489	Disagree
4	**Provision of Extension Services**			
a	Extension visits are very regular	2.32	1.448	Disagree
b	Extension Officers are highly skilled and trained	4.43	0.964	Agree
c	Members are regularly updated on current farming trends and modern techniques	4.29	1.151	Agree
d	Regular organization of trainings, seminars and workshops for members	3.31	1.264	Agree

Source: Field Survey September, 2017.

Table 4.2 reveals the various services members of agricultural cooperatives in Imo state enjoy. It was deduced from a five-point Likert Scale analysis with a decision point of 3. The Table reveals that loan repayment structures were burdensome to members; farm inputs were not regularly supplied especially during times of scarcity and extension visits were not as regular as cooperative farmers would want. However, the means ($\bar{x}$) of the rest of the services provided on credit, farm input supply, processing and marketing, as well as extension services were all accepted since they were all above the decision point of 3.

Table 4.3 Regression Estimates on Influence of Credit, Farm Input Supply, Marketing, Processing and Extension Services on Members' Agricultural Income

Model	Estimates	Coefficient	T – Value Significance
(CONSTANT)	1.504	14.683	0.000
X_1 – Credit Supply	0.495	11.435	0.000
X_2 – Farm Input Supply	0.391	7.873	0.000
X_3 – Processing and Marketing Services	0.061	0.944	0.346
X_4 – Extension Services	-0.236	-11.262	0.000
R^2	0.811		
Adj. R^2	0.809		
F	401.339 (Sig. @ *0.05*)		

Dependent Variable: Agricultural Income

From the regression result in Table 4.3, it is clear that the independent variables - supply of credit, farm inputs, as well as marketing and processing services all have a positive influence on Agricultural Income. The co-efficient of 0.495 for credit supply indicates that a one unit increase in cooperative credit supply will result in a ₦0.495 increase in Agricultural Income per farmer, coefficient of 0.391 for farm input supply suggests that a one unit increase in cooperative farm input supply will yield a ₦0.391 increase in Agricultural Income per farmer, the coefficient of 0.061 for processing and marketing also indicates that for any one unit increase in cooperative processing and marketing services, there will be a ₦0.061 yield in Agricultural Income per farmer; however the negative coefficient of -0.236 for extension services indicate that for every one unit increase in cooperative extension services rendered, there is a ₦0.236 decrease in Agriculture Income per farmer; this shows that more has to be done in extension services since farmers have not yet effectively internalized such services so as to translate it into increased income.

Table 4.3 also reveals to us the value of our R-square, which tells us the "goodness of fit" of our model. Our R-square for this model is 0.811, which means that this model can explain about 81% of the variations of agricultural income generation in real life, so we can admit that the model is a very good one. It was also observed that the F-ratio is highly significant

at 401.339, (P > 0.00), thus suggesting that the independent variables have substantial influence on the dependent variable.

Table 4.4: Respondents' Estimated Rate of Agricultural Income

Item	No of Respondents (n)	Summation of Annual Income of All Respondents (₦)	Estimate of Annual Income Per Respondent ($income/n$) (₦)
Respondents' Agricultural Income	378	226,904,159	600,276
Respondents' Total Income (from Agric. and Non-Agric ventures)	378	281,150,172	743,784

Rate of Agricultural Income = Percentage of Agricultural Income / Total Income

Agricultural Income Per Farmer = 81%

Non-agricultural Income Per Farmer = 19%

Total Income Generation Per Farmer = 81% + 19% = 100%

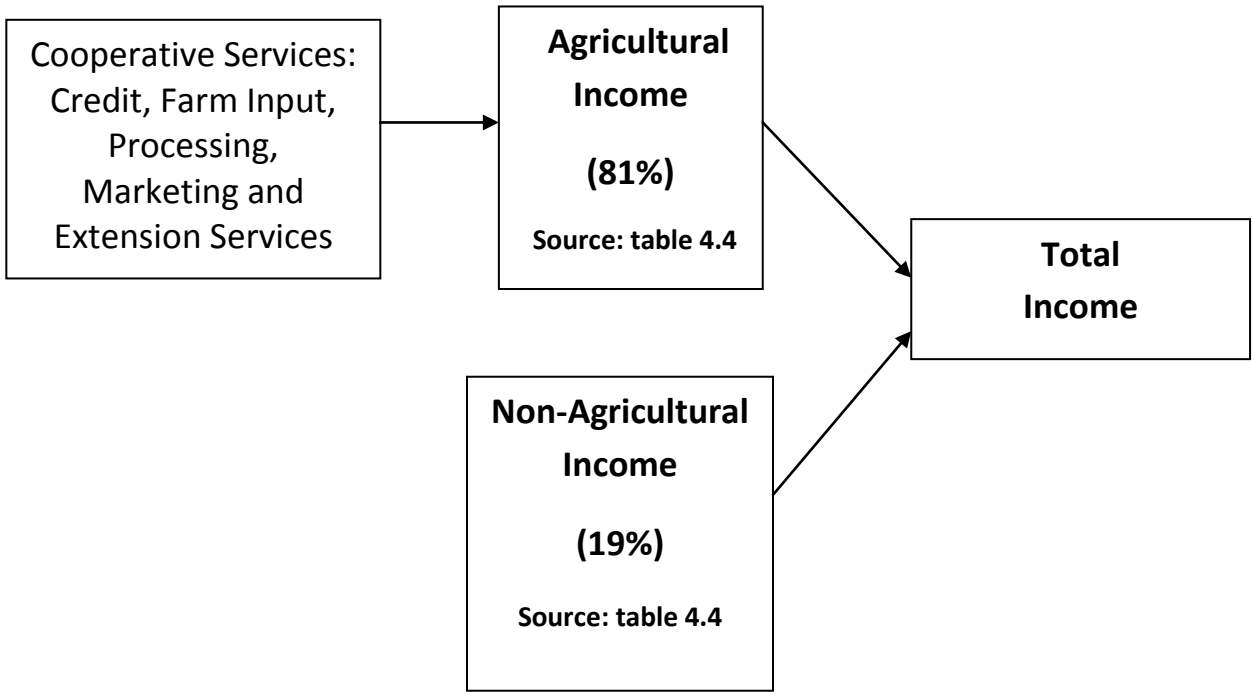
Source: Field Survey, September 2017

Table 4.4 clearly shows the summation of all 378 respondents' Annual Agricultural Incomes as ₦226,904,159, while the summation of their Total Annual Incomes (from agricultural and non-agricultural sectors) was revealed as ₦281,150,172.

The Table further revealed that the Average Annual Agricultural Income per farmer is slightly above ₦600,275, while the Average Total Annual Income (from agricultural and non-agricultural sectors) per farmer is shown as being slightly above ₦743,783.

From Table 4.4, it is clear that the rate of Agricultural Income to Total Income per farmer is 81% (Percentage of Annual Agricultural Income per farmer / Total Annual Income per farmer). This goes to prove that Agriculture Income (as a result of cooperative services such as credit, farm input supply, and extension services- see Table 4.3) contribute a huge 81% to each famers' Total Income generation.

Figure 4:1 Influence of Cooperative Credit, Farm Input Supply, Marketing, Processing, and Extension Services on Members' Income Generation



Source: Field Survey, September 2017

Figure 4.1 indicates that cooperative services that contribute significantly to the 81% Agricultural Income per farmer are: cooperative credit, input supply and extension services, while cooperative marketing and processing services does not significantly influence agricultural income (Table 4.3).

4.2 TESTS OF HYPOTHESES

Test of Hypothesis One

H_0 Cooperative credit has no significant influence on members' income generation.

H_1 Cooperative credit has significant influence on members' income generation.

In testing Hypothesis one, which states that cooperative credit has no significant influence on members' income generation, it was observed (from Table 4.3) that the t-statistic of the coefficient of cooperative credit variable (11.435) was highly significant (at 0.05 level) to agricultural income. Therefore, the null hypothesis is rejected and the alternative which states that cooperative credit has significant effect on members' income generation is accepted. This result agrees with the findings of Olawepo (2010) where his findings revealed that cooperative credit has a very strong

influence on income generation. This result also affirms the findings of Kihwele and Gwahula (2015) who found that cooperative micro credits have a strong and direct influence on members' income.

Test of Hypothesis Two

H_0 Cooperative farm input supply services have no significant influence on members' income generation.

H_1 Cooperative farm input supply services have significant influence on members' income generation.

In testing hypothesis two, which states that cooperative farm input supply services have no significant influence on members' income generation, it was observed (in table 4.3) that the t-statistic of the coefficient for cooperative farm input supply variable (7.873) was significant (at 0.05 level) to agricultural income. Therefore, the null hypothesis is rejected and the alternate hypothesis which states that cooperative farm input supply services have significant influence on members' income generation is accepted. This strongly harmonizes with Adesina (2013) findings in his survey on contributions of farm input supply to farmers' sustenance; where his findings revealed that cooperative farm input services have very strong positive influence on members' income. Getnet and Anullo (2012) also

agreed with this result, since their findings showed that agricultural cooperatives were able to improve their members' earnings due to reduced farm input costs received from agricultural cooperatives.

Test of Hypothesis Three

H_0 Cooperative marketing and processing services have no significant influence on members' income generation.

H_1 Cooperative marketing and processing services have significant influence on members' income generation.

In testing hypothesis three, which states that cooperative marketing and processing services have no significant influence on members' income generation, it has been observed (from Table 4.3) that the t-statistic of the coefficient of cooperative marketing and processing variable (0.944) was not significant (at 0.05% level) to agricultural income. Therefore, the null hypothesis which states that cooperative marketing and processing services have no significant influence on members' income generation is accepted and the alternate rejected. This agrees with Siddique (2015)'s findings in Bangladesh where he conducted a study on the effect of marketing services on the income of 130 farmers. His findings revealed that 68% of his respondents did not have access to adequate marketing services, especially

storage facility for preserving their products, this insignificant influence of marketing services to their income subsequently compelled them out of business. However, Ahmed and Mesfin (2017) sharply disagreed with this result since their findings revealed that agricultural cooperatives succeeded in improving the finances of their farmer members through their strong provision of marketing and processing services.

Test of Hypothesis Four

H_0 Cooperative extension services have no significant influence on members' income generation.

H_1 Cooperative extension services have significant influence on members' income generation.

In testing hypothesis four, which states that cooperative extension services have no significant influence on members' income generation, it was observed (from Table 4.3) that the t-statistic of the coefficient of cooperative extension variable (-11.262) was highly significant (at 0.05% level) to agricultural income. Therefore, the null hypothesis is rejected, and the alternative hypothesis which states that cooperative extension services have significant influence on members' income generation is accepted. However, it is important to note that the influence cooperative extension services have on income generation is a negative one (as indicated by the

negative value of the t-value of the variable -11.262 as seen in Table 4.3). This result strongly contrasts with the findings of Wanyama, Develtere and Pollet (2008), who studied eleven countries in Africa, and found out that agricultural cooperatives have significantly and positively contributed to the members income since they constituted a forum and platform for members' education and trainings. Blekking (2016) and Mbanza (2013) also disagreed with this result since their findings indicate that farmer members of agricultural cooperatives enjoyed increased income due to the improved knowledge impartation they received through regular cooperative extension services.

Regression Model

The structure of the linear regression model that was used to test the entire hypotheses in order to ascertain the influence agricultural cooperative services on members' income generation is given from Table 4.3 as follows:

$$Y = 1.504 + 0.495\, x_1 + 0.391\, x_2 + 0.061 x_3 - 0.236 x_4$$

From our model, only variable X_4 (Extension services) has an inverse relationship with agricultural income. However, variables X_1, X_2 and X_3 (cooperative credit, farm input supply, processing and marketing) all have a positive relationship with members' income generation.

4.3 Discussion of Findings

From the findings posited above, credit significantly increased income of members (t = 11.435, p > 0.00), implying that members' income increased as they accessed credit and decreased when they did not access credit. Since most respondents were of the opinion that they had easy access to cheap loans, with minimal emphasis on collaterals (see table 4.2), this enabled their income to increase significantly to the tune of ₦0.495 income per unit of credit provided. Agricultural cooperatives should work harder at making the pay back structures for loans to members more flexible since most respondents were of the opinion that the burden of loan repayment was still heavy on them.

Cooperative farm input supply also significantly increased income of members (t = 7.873, p > 0.00), to the tune of ₦0.391 income per unit of farm input supplied. This was made possible since members had access to cheap and high quality varieties of farm input supplied to them, with the only challenge being that those inputs were not easily accessible to them all year round, especially when they were in scarce supply.

However, the same could not be said of cooperative marketing and processing services, because findings indicated that their influence on income generation of members was not significant enough (t = 0.944, p < 0.346). Even though members claimed that their produces were usually

processed and marketed at competitive prices, and that transportation was also provided to transport their goods, they majorly submitted that provision of storage facilities for their goods was not adequately provided, this probably might have been compelling them to sell their perishable goods in a hurry at give-away prices, forcing their income down. This could have been one major reason that made processing and marketing services provided by cooperatives not to be significant in influencing income.

Even though cooperative extension services had a significant influence on income, the influence it had on income was negative ($t = -11.262$, $p > 0.00$), implying that for each unit of extension service provided, income of members reduced to the tune of ₦0.236. This could have been due to the fact that members complained that the extension visits were irregular; also the response gotten from them regarding whether they enjoyed regular seminars and workshops from extension officers was not very strong. This could result in a situation where the rub-off of knowledge from the highly skilled and experienced extension officers on respondents was not strong enough and was not internalized enough to cause a positive increase in members' income generation, probably members did not correctly assimilate and apply the information they got due to some of the reasons just highlighted above.

Summarily, cooperative services significantly influenced members' income positively ($F = 401.339$, $p > 0.00$), implying that generally as members accessed services from their cooperatives, their income received a positive boost and vice versa.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the findings of the research, draws conclusion based on the findings, and proffers necessary recommendations.

5.1 Summary of Findings

This study was carried out to evaluate the influence of agricultural cooperatives and members' income generation in Imo state focusing on cooperative credit, farm input supply, processing and marketing, as well as extension services rendered to members. From the analysis and test of the hypotheses, the following findings were made;

1. Cooperative credit significantly increased the rate of income generation of cooperative members in the study area. ($t = 11.435$, $p > 0.00$).

2. Cooperative farm input supply services significantly increased the rate of income generation of cooperative members in the study area. ($t = 7.873$, $p > 0.00$).

3. Cooperative processing and marketing services did not significantly influence the rate of income generation of cooperative members in the study area. ($t = 0.944$, $p < 0.346$).

4. Cooperative extension services significantly but negatively influenced the rate of income generated by cooperative members in the study area. ($t = -11.262$, $p > 0.00$).

Summarily, findings revealed that agricultural cooperative services generally have a positive influence on members income generation; ($F = 401.339$, $p > 0.00$); with cooperative credit having the greatest influence, followed by farm input supply, and lastly by extension services (which had a negative influence on income generation).

5.2 Conclusion

This study has revealed that the income of agricultural cooperative members in Imo State received a positive boost to the tune of eighty-one percent (81%) of their total income, largely due to the services accessed from their society. Services such as credit, farm input supply, marketing and processing, as well as extension services were accessed, where credit and farm input supply services had the greatest significant influence on members' income. Marketing and processing services did not influence

income significantly, majorly due to poor storage facilities provided, while extension services negatively influenced income, due to the fact that the irregular extension visits had not yielded much advantage to farmer members. This study therefore has shown that agricultural income in Imo State and by extension, Nigeria can receive a positive boost from agricultural cooperatives.

5.3 Recommendations

Based on the findings, the following recommendations are made;

1. Government should organize sensitization programmes to advocate the need for farmers to form or join cooperatives in order to take advantage of the services they render to members.
2. Government, financial institutions and development agencies should find ways of partnering with cooperatives in making cheap micro credit easily accessible to members of cooperatives.
3. Government agencies and parastatals should have up-to-date records of active cooperatives and membership. This will help extend affordable varieties of farm inputs to genuine farmers especially during scarcity and help eliminate corrupt persons that pose as farmers with the intention to profiteer farm inputs.

4. Cooperatives should emphasis and partner with stakeholders to provide adequate storage and processing facilities for members. This will protect their produce and keep it in good condition before it reaches the market. In doing this, farmers' income will be optimized since they will not be forced to sell out their perishable goods at give away prices.
5. Extension services should be improved by the Imo State Agricultural Development Programme (ISADEP). At least, three highly trained extension officers should be attached to each village in a community. These officers should visit farmers regularly and update them with modern farming trends and techniques.

5.4 Contribution to Knowledge

Before now, available literature in this area of study were majorly geared towards revealing whether there was any effect membership or otherwise of agricultural cooperatives on members, or whether the services provided by agricultural cooperatives had any effect on members' income. This study, beyond establishing that cooperative services indeed have an influence, precisely a positive influence on members' income, has gone further to establish that this increased income members enjoy due to the services they enjoy from their various agricultural cooperatives, contribute a lion share to their total income. With this awareness, all stakeholders would know which

sector or what services should enjoy more emphasis over others, in the bid to increasing farmers' income as well as optimizing scarce resources.

5.5 Suggestions for Further Studies

Apart from rendering services like credit, input supply, marketing, processing and extension services to members, there are other services agricultural cooperatives provide for members that could also serve to increase their income, such services include provision of irrigation services, insurance services, provision of access to land for farming, and so on. Such services could also be examined in the future.

Also, in the journey towards generating higher income for impoverished farmers in developing countries like Nigeria, many factors that are beyond the control of agricultural cooperatives but have affected farmers' income generation in the past could also be researched on with a view to providing a solution that will help improve members' income. Some of these factors include: Political factors (such as political stability, government leadership styles, policies and programmes), environmental factors (such as climatic and weather conditions), cultural factors (such as prevalent cultures and values), as well as religious dispositions of members. Also, factors that affect farmers' income but are peculiar to developing nations such as poor

infrastructural facilities like road networks, power and water supply and so on could also be investigated.

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Appendix I

Department of Cooperative Economics and Management,
Nnamdi Azikiwe University, Awka,
Anambra State.
July, 2017.

Dear Respondent,

This questionnaire is meant to gather data and generate information for research on 'Agricultural Cooperatives and Members' Income Generation in Imo State, Nigeria'. You are assured that all your answers will be treated strictly as confidential.

Chikioke-Okoro, C. G.

SECTION A: Demographic Data

Instruction: Please tick (√) on the option that best suits you.

Personal Data

1. Gender: Male ☐ Female ☐

2. Age:
   - ≤ 20 ☐
   - 21 – 40 ☐
   - 41 – 59 ☐
   - ≥ 60 ☐

3. Married Status:
   - Single ☐
   - Married ☐
   - Divorced ☐
   - Widowed ☐

4. Educational Qualification:
   - Primary ☐
   - Secondary ☐
   - Tertiary ☐

5. Household Size:
   - ≤ 5 ☐
   - 6 - 9 ☐
   - ≥ 10 ☐

6. Farm Size (Hectares):
   - 2 and below ☐
   - 3 – 4 ☐
   - ≥ 5 ☐

7. Farm Experience:
   - ≤ 5 ☐
   - 6 – 9 ☐
   - ≥ 10 ☐

Section B: Members' Access to Credit, Farm Input Supply, Marketing, Processing and Extension Services

Instruction: Please tick (√) on the option that best suits your society

S/n	Type of Service Accessed	SA	A	U	D	SD
8a	Our cooperative society provides credit facilities to members					
b	It is easy to access loans from my society					
c	Loans are given to members with minimal charges					
d	Members can obtain loans without collaterals					
e	Repayment of loans are structured to lessen burden on members					
9a	Our cooperative society supplies farm inputs to members					
b	Members obtain farm inputs at cheaper rates					
c	Farm inputs provided by our society are very high in quality					
d	Farm inputs are regularly supplied to members even during scarcity					
e	Our society provide members with divers varieties of inputs					
10a	Our society provides marketing and processing services to members					
b	Members' produce are regularly processed and prepared for the market					
c	Members' produce are marketed at competitive prices					
d	Transportation is provided to convey members' produce to the market					
e	Storage facilities are usually provided for members' produce					
11a	Our cooperative society provides extension services to members					
b	Extension visits are very regular					
c	Extension officers are highly skilled and trained					
d	Members are regularly updated on current farming trends and techniques					
e	Seminars and workshops are regularly organized for members					
5	Our agricultural Income is a direct result of the services we enjoy from our cooperative society					

Section C: Estimates of Members' Income

Instruction: Please indicate your Income

12. What is your estimated annual income from agriculture since you joined your cooperative?
13. What is your estimated total annual income (from agric and non-agric sectors)?

Appendix II

SPSS Regression Result for Hypothesis 1, 2, 3 and 4

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Extension Services, Credit Services, Farm Input Supply Services, Processing and Marketing Services[b]	.	Enter

a. Dependent Variable: Cooperative Services that Influence Income

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901[a]	.811	.809	.309

a. Predictors: (Constant), Extension Services, Credit Services, Farm Input Supply Services, Processing and Marketing Services

a. Predictors: (Constant), Extension Services, Credit Services, Farm Input Supply Services, Processing and Marketing Services

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	152.883	4	38.221	401.339	.000[b]
	Residual	35.522	373	.095		
	Total	188.405	377			

a. Dependent Variable: Cooperative Services that Influence Income

b. Predictors: (Constant), Extension Services, Credit services, Farm Input Supply Services, Processing and Marketing Services

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.504	.102		14.683	.000
	Credit Services	.495	.043	.574	11.435	.000
	Farm Input Supply Services	.391	.050	.686	7.873	.000
	Processing and Marketing Services	.061	.064	.098	.944	.346
	Provision of Extension Services	-.236	.021	-.495	-11.262	.000

a. Dependent Variable: Cooperative Services that Influence Income