# EFFECTS OF WOMEN COOPERATIVE SOCIETY ON ENSURING FOOD SECURITY IN OGBARU LOCAL GOVERNMENT AREA OF ANAMBRA STATE, NIGERIA

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**Abstract**
*The study investigated Effects of the Activities of Women Cooperative Society on Ensuring Food Security in Ogbaru Local Government Area. Data were obtained from 10 functional and active cooperatives in the study area, a total of one hundred thirty-seven (137) copies of questionnaire were distributed among the respondent representing 100% of the sample size, fifteen (15) copies of the questionnaires were improperly filled representing 11% and one hundred and twenty-two (122) copies of the questionnaire were properly filled representing 89%, the data collected were subjected to analysis with both descriptive and inferential statistics, using the frequency distribution and percentage table. The stated hypothesis was tested with Regression Analysis. Evidence from the study revealed that there is a significant effect of the activities of women cooperative and food security in the study area. There was strong evidence from the study that food availability will increase when agricultural input and supports are mobilized. Findings from the study also revealed that growth in food availability was proxy for the provision of credit facilities by women cooperative. It was also observed that women cooperative is faced with some constraints that hindered them from increasing their efficiency and effectiveness. Therefore, in order to strengthen their role in achieving food security, the following recommendations were made: That cooperative policy that favours the growth of these cooperatives by putting in place financial institutions that could increase the credit facilities to the women farmers in particular at low interest rates. There is need for re-orientation and more sensitization on leadership as it is paramount to the success of any organization and this explains the failure of many cooperatives since they lack proper coordination, administrative skills and managerial acumen.*
**Keywords:** *Women Cooperatives, Food Security, Cooperative services, Ogbaru local government area.*

## Introduction

The quest for food and the desire to satisfy hunger is undoubtedly man's most important need (Ijatuyi, Omotayo, & Nkonki-Mandleni, 2018). To meet this basic need, there must be physical, social and economic provision and access to safe, sufficient, and nutritious food. Meeting the dietary needs and food preferences of all races, at all times, such that an active and healthy life is guaranteed; is commonly referred to as food security (Food Climate Research Network, 2018). In a broad sense, food security involves the entire food system and touches issues like: quantity of food

available for households, the nutrition needs of each member, and the distribution of the food. Oluwaseun, (2020).

Food and Agricultural Organization (FAO, 2017), added that food security is achieved when all the four pillars – availability, access, utilization, and stability – are met. Availability ensures there is trustworthy and consistent source of food; access concerns the capability of individuals in having sufficient resources to produce and/or purchase adequate food; utilization aspect deals with people having adequate knowledge and fundamental sanitary conditions to select, prepare, and distribute food capable of providing good nutrition; while stability sees to the sustenance of the availability, access and utilization over time (Swiss Agency for Development and Cooperation (SDC)(2017). Therefore, the ultimate goal of food security is to ensure that health of individuals and households are secured.

In the globe, about 800 million people are hunger stricken; but gruesomely, close to 2 billion suffer deficiencies particular to micronutrient (SDC, 2017). While poverty might cause hunger. Oluwaseun (2020) noted that issues like inability of households to combine right nutrients and food is not poverty related. Of the many factors that can cause food insecurity, conflicts, terrorism, drought, pest and disease are notable (FSIN, 2017); and in some cases, unexpected surges in the economic circumstances of households, like: loss of income, increased household size/bills, inflation etc. can lead to food insecurity (Seivwright, Callis & Flatau, 2020).

In considering the fact that women are ideally great home builders and can also make and create changes in society, the need to ensure that women are key players of the mainstream activities of cooperative societies in enhancing food security, becomes a need. Cooperative is viewed as an organization for the promotion of the economic interests of its members; it does not confine itself only to the economic aspect. It also permeates the social aspect of life and aims at establishing a new democratic social order based on freedom and equality, where people live in harmony, caring and sharing like a family, where there is a unity of spirit and common economic bond. Onuoha et al (2021).

Cooperative has been the bedrock of promoting individuals through its numerous income yielding ventures that will elevate and stimulate the economic status of individuals. Hence, aiding them in becoming active contributors in, and benefiting from all aspects of the national economy, and ensuring that they receive an adequate education, training and opportunities for achieving their full potentials while achieving growth.

However, the activities of women cooperative can be decomposed to be; Provision of loan, credit and on-lending facilities to members, offering trainings on agro-preneurship, Processing/value addition of farm output, providing access to favorable market for farm output, Supply of quality and affordable farm inputs, providing

agricultural extension services for members, etc. while food security can be decomposed to be; food availability, affordability, accessibility, etc
Hence, this research attempts to determine how the provision of credit and lending facilities can ensure food availability, which will at the same time increase food affordability in Ogbaru local government area of Anambra state, Nigeria.

**Statement of the Problem**

In Africa, women are known to produce up to 80% of the food. However, they receive very limited inputs like only 7% of agricultural extension services, less than 10% of the credit offered to small-scale farmers, and own only 1% of the land (FAO, as cited in Uche 2021). In this context, women are often found concentrated in subsistence agriculture and unpaid farm work making it tedious for them to attain ensured food security. Women cooperatives will increase women's access to productive resources and opportunities including job creation, extension services, productive inputs, and market information (Uche 2021) that could increase the rate of food security within the region.

While it is evidenced that food security at household level is poor in developing countries such as Nigeria (Lutomia, 2019). This is so as women are constrained by gender inequalities displayed in obstacles like: poor access to productive resources (land, credit, fertilizers, improved livestock and seeds etc); low education; poor extension services contact etc. (Abebe, 2017).

Cooperatives from their antecedents are known to be a channel through which socially and economically marginalized persons have sought to improve their lot. There is impressive presence of Cooperatives in Nigeria most especially in the Eastern part but has perhaps not been given attention. The extent to which the social and economic activities of cooperative societies translate to the empowerment of women especially in ensuring food security in the Eastern part of Nigeria has not been given desired attention, hence this research intends to examine effects of the activities of women cooperative society on ensuring food security in Ogbaru local government area of Anambra state, Nigeria.

**Objective of the Study**

The broad objective of the study is to investigate the effects of the activities of women cooperative society on ensuring food security in Ogbaru local government area of Anambra state, specifically, this study tends to:

1. Determine the effect of the provision of credit by women cooperatives on food availability in Ogbaru local government area of Anambra state
2. Examine the effect the provision of agricultural input by the women cooperatives on food availability in Ogbaru local government area of Anambra state.
3. Assess the effect of cooperative extension services on food availability in Ogbaru local government area of Anambra state.

**Research Questions**

The following research questions were raised to guide the study:

1. What are the effect of the provision of credit by women cooperatives on food availability in Ogbaru local government area of Anambra state?
2. What are the effect of the provision of agricultural input by women cooperatives on food availability in Ogbaru local government area of Anambra state?
3. How have extension services affected food affordability in Ogbaru local government area of Anambra state?

**Research Hypothesis**

In order to achieve the study objective, the following hypothesis is formulated;
Ho: There is no significant effect of the activities of women cooperative on food affordability in Ogbaru local government area of Anambra state
Hi: There is a significant effect of the activities of women cooperative and food affordability in Ogbaru local government area of Anambra state

**Conceptual Review**

**Food Security**

Basically food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. However, household food security is the application of this concept to the family level, with individuals within households as the focus of concern. FAO (2021) opined that the number of people in the world affected by hunger continued to increase in 2020 under the shadow of the COVID-19 pandemic. After remaining virtually unchanged from 2014 to 2019, the Prevalence of undernourishment increased from 8.4 percent to around 9.9 percent between 2019 and 2020, heightening the challenge of achieving the Zero Hunger target in 2030. The 2020 estimate ranges from 9.2 to 10.4 percent, depending on the assumptions made to reflect the uncertainties around the assessment.

In terms of population, it is estimated that between 720 and 811 million people in the world faced hunger in 2020. Considering the middle of the projected range (768 million), 118 million more people were facing hunger in 2020 than in 2019, with estimates ranging from 70 to 161 million. The numbers show enduring and troubling regional inequalities. About one in five people (21 percent of the population) was facing hunger in Africa in 2020 – more than double the proportion of any other region. This represents an increase of 3 percentage points in one year. more than half (418 million) live in Asia and more than one-third (282 million) in Africa. While Latin America and the Caribbean accounts for about 8 percent (60 million). Compared with 2019, 46 million more people in Africa, almost 57 million more in Asia, and about 14 million more in Latin America and the Caribbean were affected by hunger in 2020. Ugbodaga (2021).

Food security is the measure of the availability of food and individuals' ability to access it. United Nations' Committee on World Food Security, defined it, as all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life. The availability of food irrespective of class, gender or region is another one. There is evidence of food security being a concern many thousands of years ago, with central authorities in ancient China and ancient Egypt being known to release food from storage in times of famine. The term "food security" was defined with an emphasis on supply; food security is defined as the "availability at all times of adequate, nourishing, diverse, balanced and moderate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices". Later definitions added demand and access issues to the definition. The first World Food Summit, held in 1996, stated that food security "exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." Abbate, (2017).

Similarly, household food security is considered to exist when all members, at all times, have access to enough food for an active, healthy life. Individuals who are food secure do not live in hunger or fear of starvation. Food insecurity, on the other hand, is defined by the United States Department of Agriculture (USDA) as a situation of "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways". Food security incorporates a measure of resilience to future disruption or unavailability of critical food supply due to various risk factors including droughts, shipping disruptions, fuel shortages, economic instability, and wars. The Food and Agriculture Organization of the United Nations, identified the four pillars of food security as availability, access, utilization, and stability. The United Nations (UN) recognized the Right to Food in the Declaration of Human Rights in 1948, and has since said that it is vital for the enjoyment of all other rights Raj (2019).The main global policy to reduce hunger and poverty is in the Sustainable Development Goals. In particular Goal 2: Zero Hunger sets globally agreed on targets to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture by 2030.

**Women Cooperative Activities:**

Contemporary world economic order shows that women have become critical in the affairs of any nation especially in economic and national development process, either in the formal or informal sector, urban or rural areas. The participation of women in the economic life of a country like Nigeria, is only one aspect of their changing roles in the society, Amanze, (2018). Augonus (2017) captures the changing role of women in Nigeria when she remarks that most topical issues in international or global development agenda is women. Today, issues about women have taken varied nomenclatures such as women issues, women concern, women in development,

women in politics and even women in science and technology. Varied as the nomenclatures may be, there is however, global consensus that international development plans must include strategies for the integration of women into the development and economic process. One of the areas that women in Nigeria, particularly at the rural level are expected to be actively involved is in cooperative activities. With participation in cooperative activities, women may be able to change some of their social economic realities in forms of creating opportunities for self-actualization economically, modify public perception on their status and more importantly improve their overall standard of living. Contemporary world economy has made the role of women to be no longer limited to child bearing and home management they have become critical stake-holders in the economic and social advancement of their families and societies (Okafor, 2016).

Women cooperative society is a collective action wherein at least two women interact or coordinate actions to achieve a mutual benefit. Smith, (2021). Thus, women cooperation will evolve if the fitness benefit from women cooperation outweighs the cost. However, the importance of food security among individuals in both rural and urban areas have brought about the intervention of women cooperative societies as a factor in ensuring that both financial, economic, input, ready market, resources among others, are available to tackle the issues of food scarcity. Local and international organizations have continued to explore the best modalities in the application of cooperatives to foster economic growth via the agro industry in almost every area of the economic needs from individuals to enterprises in rural and urban areas. Sergio (2019).

Women cooperative activities therefore refer to all aspects of participation in a cooperative business either in conceiving, planning, administering, funding and marketing.

They must serve a market efficiently and effectively, they must be well managed, and they must survive financially. However, there are important distinctions that make cooperatives unique.

**Food Availability**

This is achieved when sufficient quantities of food are consistently available to all individuals within a country, and there's Improved access to food-through increased agricultural productivity and incomes-is essential to meet the food needs of the world's growing population. "It also relates to the supply of food through production, distribution, and exchange. Food production is determined by a variety of factors including land ownership and use; soil management; crop selection, breeding, and management; livestock breeding and management; and harvesting. Crop production can be affected by changes in rainfall and temperatures. The use of land, water, and energy to grow food often competes with other uses, which can affect food production. Land used for agriculture can be used for urbanization or lost to desertification,

salinization, and soil erosion due to unsustainable agricultural practices. Crop production is not required for a country to achieve food security. FAO (2016).

Food consumers outnumber producers in every country, food must be distributed to different regions or nations. Food distribution involves the storage, processing, transport, packaging, and marketing of food. Food-chain infrastructure and storage technologies on farms can also affect the amount of food wasted in the distribution process. Poor transport infrastructure can increase the price of supplying water and fertilizer as well as the price of moving food to national and global markets. Around the world, few individuals or households are continuously self-reliant for food.

This is reinforced by Agarwal (2019) who identifies the various types of participation that represent an entire continuum. These are: a) Nominal participation: membership in the group, b) Passive Participation: being informed of decisions ex post facto; or attending meetings without speaking out, c) Consultative Participation: being asked an opinion on specific matters without guarantee of influencing decisions, d) Activity-specific participation: being asked to (or volunteering to) undertake specific tasks, e) Active participation: expressing opinions, whether or not solicited, or taking initiatives of other sorts and f) Interacting (empowering) participation: having voice and influence in the group's decisions. Agarwal (2019) informs, that participation of women in cooperatives in order to ensure food security, can be nominal, passive and a mere formality, yet it would still be considered as participation of women in agricultural cooperatives. Women's active participation at various levels within agricultural cooperatives has been found to positively contribute to different development outcomes. According to a workshop organized by Agriterra and supported by Agri-Pro focus for female leaders of agricultural cooperatives in Embu Kenya in 2015, the following development outcomes were identified:

(i) Having men and women in the board and management of the cooperative contributes to better leadership and increased competitiveness of the cooperative,
(ii) Women are important for the production, involving them as members contributes to increased production and higher profitability of both cooperative and the farm as a family enterprise,
(iii) Increasing the access of women to the services (training and other resources) of the cooperative contributes to the introduction of new farming techniques and innovation and
(iv) Inclusion of women on an equal footing in the cooperative, and joint decision making on the family income will contribute to the motivation of women to become active members of the cooperative and contribute to the production of more and better produce.

## Cooperative credit and food availability

Access to credit is a crucial factor in ensuring food availability and the development of the agricultural sector. Agricultural producers rely on credit facilities to raise the capital required to initiate and sustain production activities The role of credit in agricultural production is crucial because inputs such as seeds and fertilizers are purchased at the beginning of the production season, but returns are realized only at the end of the season. Masuku et al, (2016). The provision of credit has been regarded as an important tool for raising the incomes of rural populations, mainly by mobilizing resources to more productive uses. Agricultural credit plays an important role in ensuring food availability while at the same time, enhancing agricultural productivity in developing countries like Nigeria. Muhammad (2017), stated that agricultural growth depends on increased use of agricultural inputs, technological change and technical efficiency. He also argued that technological change is the result of research and development efforts, while technical efficiency with which new technology is adopted and used more rationally is affected by the flow of information, better infrastructure, availability of funds and farmers' managerial capabilities. The optimal use of inputs requires funds at the disposal of farmers. These funds could come either from farmers' own savings or through borrowings. In less developed countries like Nigeria where savings are negligible especially among the smallholder farmers, agricultural credit becomes an essential input along with modern technology for higher productivity. Credit requirements of the farming sector have increased rapidly over the past few decades resulting from the rise in use of fertilizer, improved seeds and mechanization and hike in their prices. Research has shown that institutional credit affects agricultural output also through financing of capital investment and the responsiveness of agricultural output is larger to institutional credit than that of output to fertilizer.

Credit support of the households could serve as a pol-icy tool for alleviating the food insecurity. Credit allows poor households to engage in income-generating activities and investments to improve their livelihoods. Efforts have been made by the government to deliver credit services to rural households through a number of programs, among these efforts is the establishment of cooperatives. Cooperatives play a key role in tackling rural poverty and increasing food security, accessibility and affordability. Shiferaw (2016). Rural households with low income pull their resources together to form cooperatives in order to generate more income. Cooperatives pool different resources such as credit, information and labour among members to achieve mass production and purchase food or satisfy other basic needs of its members. Hence, they play an important role in supporting long-term food availability.

## Agricultural input and food availability

There is a recognition that the use of improved inputs improves food availability and production for local and export purposes. In Nigeria, a large chunk of farmers operate on small-scale basis under challenges associated with socio-economic, cultural and

institutional conditions (Anumudu, Ugwuanyi, Asogwa & Ogbuakanne, 2018). For Nigeria, as reported by World Bank report of 2016 showing an arable land of 37.33% of Land area, that is a potential of cultivatable 92million hectares with 34million hectares cultivated. This ignites an upward trajectory of food demand at 3.5% growth rate, given 2.83% population growth, while 2.5% growth rate is witnessed in food production in recent years. Despite 7% growth in agricultural production in 2006 to 2008, the apparent variation in food demand and production has led to: (i) a widening domestic food supply-total food requirement nexus; (ii) expanding food import bill (iii) and increasing food prices due to its short fall (Ewetan, Fakile, Urhie & Odutan, 2017). The practice of agriculture on land in Nigeria is structured around 3 major types, they are; upland or rain-fed farming, which represent 94%, lowland or swamp farming accounts for 8.3%, while irrigation farming activities takes 1.5%. However, since farming activities are principally rain-fed, they are subject to climate variabilities. With this connection, the increasing food demand has precipitated the proportional increase of area cultivated for various agricultural products.

Eze, Awulonu, and Okon (2018), stated that agricultural support is majorly public sector driven, via support in agricultural research and extension services, goods marketing, agricultural input supplies, and land legislation to speed up development of the agricultural sector. To this effect, marginal increases were recorded in the production of exportable agricultural commodities. However, the evolving scenario depicted output increase attributable to more planting of new areas than enhancing agricultural productivity and its global competitiveness, such that market opportunities were decimated for Nigeria. Agene & Adediran (2017) accentuate these facts while discussing the poor trajectory of agricultural productivity growth as witnessed since 1970s. For food availability to increase such that industrial development will be enhanced, as well as expanding the nation's export base, it requires mobilizing agricultural input and support for growth, given its veritable channel as an industrial hub, food supplies, and revenue earner.

**Cooperative marketing and food availability**

The establishment of cooperative marketing societies was another step which has been taken to overcome the problems arising out of the present system of marketing agricultural produce and ensuring food availability. The objectives of economic development and social justice can be furthered by channelizing agricultural produce and ensuring food availability through cooperative institutions. Farmers complain of the marketing system because they get lower prices, due mainly to high marketing charges and the prevalence of malpractices. The efforts of the government to ensure food availability and improve the marketing system of agricultural commodities have been only partially successful in creating healthy conditions for scientific and efficient marketing. Moreover, the progress of regulated markets is not uniform in all areas. The need for strengthening marketing cooperative organization has, therefore, been recognized for ensuring food availability and the marketing of the produce of farmers

and for making inputs available for them at the right price and time. However, marketing cooperative institutions are expected to function as competitors of private traders in the market. These organizations pool the produce of the small farmers having a small surplus to market and improve their bargaining power. They have also helped government agencies in the execution of the policy decisions bearing on ensuring food availability by the procurement and distribution of food grains and other essential commodities.

Here are some functions of co-operative marketing societies in ensuring food security:

- They market the product of the members of the society at fair prices in order to ensure food accessibility;
- They safeguard the members for excessive marketing costs and malpractices in order to ensure food affordability;
- They make credit facilities available to the members for the procurement of agricultural inputs;
- They make arrangements for the scientific storage of the members' produce thereby ensuring food quality assurance;
- They provide the facilities of grading and market information which may help them to get a good price for their produce;
- They introduce the system of pooling so as to acquire a better bargaining power than the individual members having a small quantity of agricultural produce for marketing purposes;
- They act as an agent of the government for ensuring food availability and the procurement of food grains and for the implementation of the price support policy;
- They arrange for the export of agricultural produce of their members so that they may get better returns;
- To make arrangements for the transport of the produce of the members from the villages to the market on collective basis and bring about a reduction in the cost of transportation; and
- To arrange for the supply of the inputs required by the farmers, such as improved seeds, fertilizers, insecticides and pesticides.

Cooperatives marketing ensure food availability by providing farm supplies, credit, and other services vary widely in success. So their benefits and limitations also vary. However, the benefits of cooperatives are difficult to measure. Some are tangible or direct as in the case of net margins or savings. Others are intangible or indirect such as cooperatives' effect on market price levels, quality, and service. Some are most evident at the time the cooperative is organized but become more obscure as the years pass.

**Activities of Women Cooperative in Ensuring Food Availability**

Through the power of association, cooperatives and farmers' organizations have long demonstrated their capacity to help small scale producers overcome barriers to gain better access to resources and inputs, and thus to play a greater role in meeting the growing global food demand. For women producers, who are at a greater disadvantage, women cooperatives offer networks of mutual support and solidarity that allow them to grow their social capital, improve their self-esteem and self-reliance, acquire a greater voice in decision-making, and collectively negotiate better contract terms, prices and access to a wide range of resources and services including;

- Agricultural resources and assets;
- Markets to commercialize their produce;
- Credit, capital and other financial services; and social services.

Numerous examples from around the world demonstrate how women producers are socially and economically empowered through their membership in women cooperatives and farmers' organizations, allowing them to produce more, earn better incomes, and raise the living standards and economic and food security of their families and community at large.

**Theoretical Framework**

Group Action Theory of Development. This theory became relevant to the study because it is a community oriented model. This theory was propounded by Mancur Olson in 1965, which seeks to understand how groups of individual are able to come together to overcome their individual and collective problem. Group action in cooperative requires involvement of a group of people, a shared interest within the group and involved on some kind of common action which works in pursuit of that shared interest. Members can contribute in various ways to achieve the shared goal, money, labour among others. This action should be voluntary in order to distinguish group action from hired labour. This theory was chosen on the basis of people coming together to form an autonomous group with collective interest of development. This is in line with the 1995 ICA principles of voluntary and open membership, autonomous, and independent association of person with common interest. The Group Action Theory also creates a sense of community that increases the ability of the women cooperative members to work together collectively and participate in group decision making. This boosts member's self-confidence, self-reliance and self-esteem within the community.

**Relevance to this Research Work**

Group Action Theory of Development although is one of the earliest propounded theory of development is still very much relevant and applicable in present day women cooperative society settings. Despite its shortcomings, it has been able to identify those needs that are peculiar to women and food security. Hence, it is vital that people come together to form an autonomous group with collective interest of development. In order to achieve high productivity levels as members (women) of the cooperative

societies, should consider coming together as a group, the backbone of the society. Group Action Theory of Development posits that the interest of the members must first be given due consideration

## Empirical Review

Onugu and Abdulahi (2013) appraise the performance of agricultural cooperatives in the National food security program. The study was carried out in the Aniri Local Government Area of Enugu State. The specific objectives of the study are to ascertain the socio-economic characteristics of farmers; identify the services available to farmers in the NPFS; determine the extent agricultural services are accessible in the NPFS, appraise the effect of using agricultural cooperative societies in the implementation of NPFS as well as examine the challenges. Data were obtained from both the ADP staff and cooperative farmers using a structured questionnaire. A simple percentage and statistical package for social sciences (SPSS version 17) were employed in analyzing the data and correlation analysis was used to pair the two variables (farmers and extension workers) and a t-test was used to test the hypothesis. The study revealed that agricultural cooperative societies are effective means of accessing agricultural services under NPFS.

Okafor, Okafor and Uzondu (2018), examined the role of women cooperative in agricultural development focusing on Awka south local government area of Anambra state. Sixty (65) farmer members were randomly selected from six women cooperative in the area. In this research, descriptive analytical method was used to investigate the specific objectives. They include descriptive statistics such as frequency distribution table, percentage, mean and standard deviation. For the hypothesis posed, t-test or t statistics was used to draw if there is any significant effect of the cooperative roles on the member's output. Likert scale analysis was used to examine the perception of members on how cooperative functions\activities such as input supply, marketing and processing have brought about an enhancement to their economic well represented by output. The researcher found out that women cooperative in the area has played significant role in marketing and processing of their member's agricultural produce. The effect of the cooperative functions\activities (input supply, marketing and processing) has significantly improved the income and standard of living of the women farmer member of cooperative in the area. Women cooperative are encouraged to process and market their member's agricultural produce since it has strong significant effect on their member's income, and also provide credit and improved varieties of inputs to their members at appropriate time to enhance their productivity. On the other hand, government should aid those women cooperative in the area by giving them loan and grants to boost their productivity and also construct a good road network for easy evacuation of their produce to the cities where they will attract more income to the women cooperative.

## Methodology

The descriptive survey design was adopted for the study. The area of study is Ogbaru local government Area of Anambra State. The Population of this study consists of all registered and functional agricultural cooperatives Societies in Ogbaru Local government area. Information from the divisional cooperatives office in charge of the local government revealed that the population of agricultural cooperatives societies in the area of study are 50 active cooperative societies with membership strength of 703. Ten cooperatives were randomly selected. These ten (10) selected cooperative have membership strength of 210

In determining the sample size of this study, Taro Yamane (1967) was applied by the researcher.

Taro Yamani's formular was used to determine the sample size.

Formular

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

Where: n = Sample size

N = Population of the study

1 = Constant value

e = Error in margin usually 5%

$$n = \frac{210}{1+210(0.05)^2}$$

$$n = \frac{210}{1.525}$$

$$n = 137$$

With the above calculation, one hundred and ninety-seven (137) questionnaires was distributed.

**Data Analysis**

**What are the effect of provision of credit by women cooperative on food availability?**

**TABLE 5: Distribution Based on the effect of provision of credit by women cooperative on food availability**

| S/N | ITEMS | SA (5) | A (4) | UD (3) | D (2) | SD (1) | X | DECISION |
|---|---|---|---|---|---|---|---|---|
| I | Agricultural producers rely on credit facilities to raise their capital, and sustain food availability | 44 (220) | 38 (152) | 20 (60) | 15 (30) | 5 (5) | 3.8 | Accept |
| ii | Incomes and food availability in rural areas rise due to the provision of credit by women cooperative | 51 (225) | 39 (156) | 19 (57) | 12 (24) | 1 (1) | 3.8 | Accept |
| iii | Credit support of the households could serve as a policy tool for alleviating the food insecurity | 61 (305) | 35 (140) | 17 (51) | 8 (16) | 1 (1) | 4.2 | Accept |
| iv | Women cooperatives resources aid members in achieving mass production and purchase food | 65 (325) | 41 (164) | 9 (27) | 6 (12) | 1 (1) | 4.3 | Accept |
| v | Agricultural credit ensures food availability and enhance agricultural productivity | 67 (335) | 35 (140) | 19 (57) | 1 (2) | - | 4.3 | Accept |
| | **GRAND MEAN** | | | | | | **4.1** | |

*Source: Field Survey, 2022*

What are the effect of the provision of agricultural input by women cooperatives on food availability

**TABLE 6: Distribution Based on provision of agricultural input by women cooperatives on food availability?**

| S/N | ITEMS | SA (5) | A (4) | UD (3) | D (2) | SD (1) | X | DECISION |
|---|---|---|---|---|---|---|---|---|
| I | The use of improved inputs improves food availability and production for local and export purposes | 40 (200) | 60 (240) | 15 (45) | 7 (14) | - - | 4.0 | Accept |
| ii | Food availability is being driven by agricultural development which is a veritable tool, | 67 (335) | 35 (140) | 19 (57) | 1 (2) | - | 4.3 | Accept |
| iii | For food availability to increase such it requires mobilizing agricultural input and support | 30 (150) | 54 (216) | 26 (78) | 10 (20) | 2 (2) | 3.8 | Accept |
| iv | Extension services, goods marketing, and agricultural input | 34 | 54 | 20 | 13 | 1 | 3.8 | Accept |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | supplies aid the development of the agricultural sector. | (170) | (216) | (60) | (26) | (1) | | |
| v | Large-scale farming takes place to ensure food availability within the local market and for export purposes | 44 (220) | 38 (152) | 20 (60) | 15 (30) | 5 (5) | 3.8 | Accept |
| | GRAND MEAN | | | | | | 3.9 | |

***Source:*** *Field Survey, 2022*

**How have extension services affected food affordability**

**TABLE 7: Distribution Based on Contributions of cooperative societies on annual income of the farmers.**

| S/N | ITEMS | SA (5) | A (4) | UD (3) | D (2) | SD (1) | X | DECISION |
|---|---|---|---|---|---|---|---|---|
| I | Extension workers aid the supply of improved inputs such as seeds, fertilizers, insecticides and pesticides required by the farmers to enhance food availability | 60 (300) | 50 (200) | 10 (30) | 2 (4) | - | 4.3 | Accept |
| ii | Extension workers act as agent of the government for ensuring food availability, procurement and the implementation of the price support policy | 68 (340) | 47 (188) | - | 7 (14) | - | 4.4 | Accept |
| iii | Extension workers make recommendation of facilities for grading market information which may help them to get a good price for their agricultural produce; | 33 (165) | 64 (256) | 20 (60) | 5 (10) | - | 4.0 | Accept |
| iv | Extension workers pioneers the efforts of the government to ensure food availability and improve the marketing system | 37 (187) | 55 (220) | 17 (50) | 13 (26) | - | 3.9 | Accept |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| V | Extension services foster economic growth via the agro industry in almost every area of the economic needs from individuals to enterprises in rural and urban areas. | 67 (335) | 35 (140) | 19 (57) | 1 (2) | - | 4.3 | Accept |
| | GRAND MEAN | | | | | | 4.15 | |

***Source:*** *Field Survey, 2022*

**Test of Hypothesis**

***Ho:*** There is no significant effect of the activities of women cooperative and food availability in Awka North local government area of Anambra state

***Hi:*** There is a significant effect of the activities of women cooperative and food availability in Awka North local government area of Anambra state

**Table 8: Result of SPSS Regression Analysis**

a. Dependent Variable: FOOD AVAILABILITY

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .870[a] | .756 | .736 | 9360080.40 |

a.

Predictors: (Constant), ACTIVITIES OF WOMEN COOPERATIVE

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3.3E+015 | 1 | 3.264E+015 | 37.253 | .000[a] |
| | Residual | 1.1E+015 | 12 | 8.761E+013 | | |
| | Total | 4.3E+015 | 13 | | | |

a. Predictors: (Constant), ACTIVITIES OF WOMEN COOPERATIVE

b. Dependent Variable: FOOD AVAILABILITY

**Coefficients[a]**

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| Model | | | | | t | Sig. |
| 1 | (Constant) | 3549722 | 3758069 | | .945 | .364 |
| | ACTIVITIES OF WOMEN COOPERATIVE | 4.044 | .663 | .870 | 6.104 | .000 |

a.

**Dependent Variable: FOOD AVAILABILITY**

This hypothesis was used to test the effect of the activities of women cooperative and food availability in Ogbaru local government area of Anambra state. Growth in food availability was proxy for the provision of credit facilities by women cooperative was the explanatory variable. At prob > F value of 0.000 less than 0.005 percent, the OLS model is very significant, and fitted the data reasonably well. Again, the adequacy of the model was found to be a good fit with the coefficient of determination computed at 0.736. In other words, approximately 74% of the changes in food availability are attributed to changes in the explanatory variable, i.e. food availability will increase when agricultural input and supports are mobilized. The coefficient of the statistics at 4.044 is positive and significant.

## Conclusions

The study concluded that much effort has been made in examining the contributions of women cooperative societies in ensuring food availability in Ogbaru L. G.A. The analysis of this study shows that there is a major impact of the effect of the activities of women cooperative societies towards improving and ensuring food security (affordability) and farming system which helps cooperative members to obtain high quality farm inputs. The study concluded that the ways that women cooperative can adequately improve and ensure food availability is by providing credit facility to their members to obtain higher returns from product sales. The study also concluded that there is a significant relationship between women cooperative activities and food security, which aid members in accelerating input enhancement for quantitative and qualitative output. Embracing the concepts and ideology of women cooperative in the agricultural sector is the key to effective and efficient development of agriculture (food availability) in Ogbaru L.G.A.

## Recommendations

Based on the findings and conclusion of this research work, the following recommendations are offered:

1. It is obvious that women cooperative societies have limited financial resources to execute their onerous agricultural activities in ensuring food availability. This could generate women and agricultural cooperative policy that favours the growth of these cooperatives by putting in place financial institutions that could increase the credit facilities to the women farmers in particular at low interest rates.
2. Leadership is paramount to the success of any organization and this explains the failure of many cooperatives since they lack proper coordination, administrative skills and managerial acumen. Government at all levels should be interested in the formulation, administration and accountability through the related agencies such as Ministry of Commerce and Industry by supervising these women cooperatives with a view to ensuring stability and continuity of the organizations.

3. In this regard, all cooperatives in whatever form are seriously viewed as an effective strategy in the process of rural socio-economic transformation. It is capable of reducing regional imbalance between the privileged and under-privileged areas. In this regard, all hands should be on deck to ensure their successful operations in the country. This laudable goal can only be achieved if it is backed with legislative controls. The law should empower the cooperatives to perform certain functions such as strengthening the bargaining power as effective agents of socio-economic rural transformation. The cooperatives need proper education and enlightenment which can be achieved through government involvement.

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