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# Determinants of Income Inequality Among Cooperative Farmers in Anambra State

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**ABSTRACT**

This study examines determinants of income inequality among cooperative farmers in Anambra State. The study, modeled variables like farmers efficiency, technology, market proximity, credit obtained, farm size, soil fertility, crop type, input supply and agric extension services using descriptive and inferential statistics. The population of this study was made up of 298 members of selected cooperative societies in Anambra State and a sample of 171 was determined for the study using Taro Yamane formula. A structured questionnaire was administered to 171 respondents but only 115 responded to the questionnaire. The data collected using the questionnaires were analyzed using descriptive and inferential statistics. Findings revealed that: apart from market proximity which was not significant, all other factors - farmers' efficiency, technology, credit obtained, farm size, soil fertility, crop type, input supply and agric extension services - contributed significantly to the farmers' income. This study therefore recommends that: The government should carry out a public enlightenment campaign on the potentials of agricultural cooperatives as sustainable approach for reducing income inequality through synergy and emphasis should be placed more on cooperative education as requirement for growth and development since most of the people in the target areas has low educational background. The agricultural cooperative subsector should be adequately financed to help improve the farmers' income and also reduce income inequality. Agricultural technology transfer through extension services should be encouraged to help create awareness and increase adoption of better ways farming so as to increase the farmers' income and reduce income inequality among others.

***KEYWORDS:*** *Income Inequality, Cooperative Farmers, Farmers Efficiency, Technology, Credit Obtained, Agric Extension Services*

## INTRODUCTION

Agriculture plays crucial role in the nations socioeconomic transformation apart from being the source of food to the people, it is the greatest employer of labour and provider of incomes, sources of industrial raw materials, and export products for foreign exchange earnings, and has in the past been an important provider of resources for investment in other sectors of the economy (Ojiagu & Onugu, 2015). Anyanwuocha, 2006). Cooperative, more precisely agricultural cooperatives over the years have been used as a platform for improving Nigeria Agriculture. It has been described as a veritable approach for mobilizing disparate small farm holders in the rural areas to increase their income and enjoy the benefit large scale production. At the introduction of formal cooperative in Nigeria over seven decades ago, cooperative was used as a platform for improving farmers' income. The cooperative according to Ofuebe (1992) is one of the most effective vehicles for organizing modernized rural production, which has become one of the most important preconditions for efficient mobilization of production resources and accelerated rural progress. Uchendu (1998) stated that the original impetus for the introduction of cooperative was in agriculture more precisely the marketing of agricultural products to help fetch better prices and income for cocoa farmers in the Western part of Nigeria. Yet income inequality, poverty and agricultural stagnation have continued to erode the rural farmers. Presently, Nigerian agriculture is dominated by a large number of small-scale producers who are rural dwellers. According to Obinyan (2000), their holdings are small most often less than 2 hectares and are characterized by low productivity. This leads to low incomes and low capital investment. According to Oyekale, Adeoti and Ogunnupe (2003) income inequality is detrimental to economic growth and development. They attributed the Increasing income inequality in the rural and urban areas to the growing dimensions of poverty. Oyekale *et al* (2003) noted that the pattern of income distribution has been a concern to economists for a long time. Specifically, the 1990s witnessed resurgence in theoretical and empirical attention by economists to the distribution of income and wealth (Atkinson and Bourguignon, 2000). This is because high level of income inequality produces an unfavourable environment for economic growth and development. As documented by

Oyekale *et al* (2003), previous studies have shown that income inequality has risen in many developing countries over the last two decades (Addison and Cornia, 2001; Cornia and Kiishi,2001). Despite government efforts through policy interventions in agriculture to redress the conundrum, the problem of income inequality among farmers has deepened the poverty dept in rural Nigeria.

Extant literature have also documented much empirical studies of income distribution, poverty reduction and activity diversification (Adi,2002; Ali & Thorbeck,1997; Aigbokhan,2000; Oyekale, Adeoti & Ogunnupe, 2003; Reardon et al., 1992; Ellis, 2000). However, determinants of income inequality among agro ecological rural communities have not been adequately analyzed, particularly among agricultural cooperative farmers in Anambra State. Identifying the socioeconomic, environmental, and agricultural production factors that may or may not result in income inequality of the rural cooperative farmers is a teething problem. Income inequality has been a major development issue. According to Oyekale, Adeoti and Ogunnupe (2003), high level of income inequality exists in many nations of the sub-Saharan Africa. This is better buttressed by the increasing level of poverty, and general economic problems in many of these nations. Farmers engage in various agricultural farming and other income generation activities to earn income yet a wide gap of inequality exist in their income which is occasioned by the widening dimension of poverty and general economic conundrum in the country, thus, warranting an empirical probe to examine the determinants of income inequality among cooperative farmers in Anambra State.

**Objectives of the Study**

The main objective of this study is to examine the determinants of income inequality among cooperative farmers in Anambra State. Specifically the study intends to: Ascertain the income levels of the cooperative farmers and identify factors that determine income variation among cooperative farmers.

**REVIEW OF RELATED LITERATURE**

Abiud (2016) examined factors influencing farm and non-farm activities as sources of household income in Kahama District in Tanzania. Two villages (Bunasani and Kinamapula villages) of Kahama district were sampled for the study and a sample of 207 farmers had been drawn randomly from the population. A double-censored regression model, in particular a two-limit tobit model was applied to analyze the determinants of income share from farm and non-farm income sources among the households. Results revealed that, farm size increases, the share of income from farm income source would also increase. However, the marginal effect for farm size is 4.16 which is significant at 1% level of significance. Male-headed households derive a large share of their income from farming activities as compared to female-headed households where the marginal effects are about 3.5 percentage points. Saba, Abdul, Muhammad and Muhammad (2015) carried out a study to determine the poverty status and determinants of income diversification in rural areas of Pakistan using cross sectional data of Pakistan Social and Living Standards Measurement (PSLM) for 2010-2011. The variables used for measuring income diversification are demographic indicators, poverty status, and income of households. Foster-Greer-Thorbecke (FGT) poverty measures show that 43.1% poor and 56.9% nonpoor resided in rural areas of Pakistan. A Tobit model was employed to examine the determinants of livelihood diversification among households. The results show that non-poor and female headed household with higher family size diversify more as compared to poor, male headed household with small size of family members. The place of residence (province used as proxy) also plays important role for income diversification. Tran (2015) examined the socio-economic determinants of household income among ethnic minorities in the North-West Mountains using descriptive statistics and regression analysis. Findings show that the vast majority of the sample households heavily depend on agricultural activities. Factors affecting household income per capita are examined using multiple regression models and the findings confirm the important role of education, non-farm employment and fixed assets in improving household income. In addition, some commune variables such as the presence of the means of transportation, post offices and non-farm job opportunities are found to have an increasing impact on household income. Duniya and Rekwot (2015) investigated the determinants of poverty among groundnut farming households in Jigawa State using Foster-Greer-Thorbecke's (FGT) Weighted Poverty Index and Tobit regression model. The results of the (FGT) Weighted Poverty Index showed that the poverty headcount, poverty gap and poverty severity of poor groundnut farming households were 42%, 46% and 77% respectively using an estimated poverty line of 46,320.53. The factors that significantly influenced the poverty intensity of groundnut farming households in the study area were found to be age of household head which was negative and significant at 10%, marital status of household head was negative and significant at 1%, education was negative and significant at 5% and membership of cooperative was negative and significant at 5% These factors significantly decreased poverty which was in line with *apriori* expectations while that of farming experience and extension contact were positive and significant at 1% and 5% respectively. Ojiagu and Onugu (2015) examined the effect of membership of cooperative societies on the economic activities of farmers as well as the determinants of their income in rural Nigeria, focusing on Anambra State. Data from 2506 members, selected through multi-stage stratified random sampling were analyzed. The study found among others that members' incomes are dependent upon their socio-economic profile such as age, marital status, and membership or otherwise of cooperative societies, education, cooperative marketing, credit, gender and business expertise. Also respondents depend largely on farming related activities for generation of income in the study area. Furthermore, it was found that the major challenge of the farmer-members is inadequate fund, poor education and illiteracy among most members, conflict among members and lack of access to farm input. Agyeman, Asuming-Brempong and Onumah (2014) examined determinants of income diversification of farm households in the western region of Ghana using a censored Tobit regression model to find the determinants of the degree of income diversification measured by the Simpsons Index of Diversity (SID). The results indicate that a total of 65% of households engage in non-farm income sources. The estimated Share of Non-farm Income (SNFI) - 29.05% in total household income and SID-0.338 were found to be low. Age, number of years of education, female headed households, household income per capita, number of extension visits, productive assets owned and nature of road were found to be significant in determining income

diversification of farm households in the Western Region. Farm households require government and private sector support to increase the gains made in participating in various diversification strategies through policy, provision of public goods, capacity building in order to raise their living standards. Fadipe, Adenuga and Lawal (2014) carried out a study to evaluate the determinants of income among rural households in Kwara State, Nigeria. Data was collected using a well structured questionnaire from 90 randomly selected households. Descriptive statistics and the multiple regression analysis were the major analytical tools employed for the study. The result of the analysis showed that Farm income is the most important source of income for rural households in the study area making up 57.9% of total household income. Level of education of the household head, farm size and access to electricity and gender of the household head were identified as the major determinant of household income in the study area. Wanyama, Mose, Odendo, Okuro, Owuor and Mohammed (2010) examined the determinants of income diversification strategies amongst rural households in maize based farming systems of Kenya using descriptive statistics, multinomial logit and Tobit models. The results show that majority of farmers engage in cash cropping but with off-farm income supplementation. However, though there is evidence that most households have opportunities in cash cropping and nonfarm activities, pricing, inefficiency in production and marketing negatively impact on the fight against poverty and food security. In addition, lack of capital, makes it difficult for farmers to diversify from subsistence agriculture to commercial farming. Household heads and their spouses spend about 70% of their time on-farm. The household members participate in low paying casual labour ranging from KSh. 84.00 to 120.00 per day which is relatively lower than the governments' recommended rate of KSh 210 to 245 depending on locality. In addition, households with bigger farm size are more likely to participate in the non-farm sector than those with illiterate or low educated heads.

From the literature reviewed, related empirical studies focused mainly on income diversification and determinants of income in countries like Tanzania, Pakistan, Ghana, Kenya etc. However, very few research [like the works of Ojiagu and Onugu (2015); Fadipe, Adenuga and Lawal (2014)] have been done in this study area in the Nigeria context which suggests the paucity of empirical investigation on factord influencing income inequality particularly in Anambra State. As stated earlier, identifying the socioeconomic, environmental, and agricultural production factors that may or may not result in income inequality of the rural cooperative farmers is a teething problem. Income inequality has been a major development issue. According to Oyekale, Adeoti and Ogunnupe (2003), high level of income inequality exists in many nations of the sub-Saharan Africa. This is better buttressed by the increasing level of poverty, and general economic problems in many of these nations. Farmers engage in various agricultural farming and other income generation activities to earn income yet a wide gap of inequality exist in their income which is occasioned by the widening dimension of poverty and general economic conundrum in the country, thus, warranting an empirical probe to examine the determinants of income inequality among cooperative farmers in Anambra State.

## METHODOLOGY

### Research Design

This study is a descriptive survey which aims to examine the determinants of income inequality among cooperative farmers in Anambra State. The Survey research according to Okeke, Olise and Eze (2008), consists of asking questions, collecting and analyzing data from a supposedly representative members of the population at a single point in time with a view to determine the current station of that population with respect to one or more variable under investigation.

### Area of Study

This study on appraisal of the factors that determine income inequality among cooperative farmers in rural Anambra state was carried out among agro ecological rural communities in the three senatorial zones of the state. The areas selected for study include: Anambra East and West Local Government Areas in Anambra North Senatorial Zone; Orumba North and Orumba South local government areas in Anambra south senatorial zone and Awka North and Idemili South Local Government Areas in the Anambra Central Senatorial zone. The six (6) local governments were purposively selected for the study because of their great agricultural potentials and also the incomes of the people of the area are mainly from agriculture.

**Anambra East** is a Local Government Area in Anambra State, south-central Nigeria. Towns that make up the local government are Umuleri, Igboariam, Nando, Nsugbe, Aguleri, Otuocha, Ezi Aguluotu, Mkpunando, Enugwu Aguleri and Umuoba Anam. In Anambra East, Oil and Gas was found in large quantity on the bank of Omambala river and the first private refinery, airport and housing estate is about to be sited in Umuleri by the Orient Petroleum Resources PLC (Wilkipedia, 2012).

**Anambra West** is a Local Government Area in Anambra State, south-central Nigeria. Towns that make up the local government are Ezi Anam, Ifite Anam, Nzam, Olumbanasa, Oroma-etiti, Umueze-Anam, Umuenwelum Anam. Anambra west is located in the western part of Anambra state. Its local government headquarters is Nzam (Wilkipedia, 2012).

**Orumba North**- is a Local Government Area in Anambra State, East-central Nigeria. Ajalli is the head quarters of Orumba North. The 16 major towns that make up the local government are as follows;Awgbu, Omogho, Ndiokpalaeze, Ndiokolo, Amaetiti, Ndiokpalaeke, Okoh, Nanka, Ndiukwuenu, Awa, Ndikelionwu, Ajalli, Ufuma, Amaokpala, Ndiowu, and Okpeze.It is a region with markedly fertile land for agriculture with prominent products around rice, yam, cassava, and palm oil. Most of the inhabitants are subsistence farmers and traders. There is also a large student community as a result of the presence of a Federal Polytechnic located at Okoh (Wilkipedia, 2012).

**Orumba South** is a Local Government Area in Anambra State, south-central Nigeria. Umunze is the headquarters of Orumba South. Other towns that make up the local government are Akpu, Umuomaku, Eziagu, Ezira, Ubaha,Ihite, Nkerehi, Nawfija, Ogboji, Ogbunka, Owerre-Ezukala, Agbudu, Onneh, Isulo, Alaohia,Obuluhu,Uhuala,Ubaha akwaosa,Akata), Enugwu-Umuonyia (Wilkipedia, 2012).

**Awka North** is a Local Government Area in Anambra State, south-central Nigeria. Towns that make up the local government are Awba Ofemili, Ugbene, Ebenebe, Achalla (the capital), Urum, Amanasa, Amanuke, Isu Aniocha, Mgbakwu, Ugbenu (Wilkipedia, 2012).

**Idemili South Local Governmen**t is one out of the 21 Local Government Areas that make up Anambra State. It was created out of old Idemili Local Government in 1996 with the headquarters at Ojoto. It derives its name from Idemili river which has its source at Nri through Nnobi, Obosi and emptied in the Niger River. Idemili South Local Government consists of seven communities namely Akwu-Ukwu, Alor, Awka-Etiti, Nnobi, Oba and Ojoto. Idemili South is geographically bounded in the North by Idemili North Local Government area, in the West is Ogbaru Local Government Area, in the South by Ekwusigo Lcal Government Area while by East is Nnewi North Local Government and Anaocha Local Government. The inhabitants of Idemili South Local Government are predominantly traders and farmers. They speak common languages known as Igbo and English Languages. They are very hospitable to strangers. **Land Area:** 139 ,000 square kilometers .**Population:** 206,816 (2006 census) . **Communities:** Ojoto(HQ), Akwaukwu, Alor, Awka-Etiti, Nnobi, Nnokwa, Oba. (Wilkipedia, 2012)

**Population of the Study**

The population of this study is made up of all the members of the registered Farmers Cooperative societies in the six (6) selected Local Government Areas. Anambra East L.G.A has 61 registered cooperative societies out of the 61 registered cooperatives 43 of them are famers cooperatives. Anambra West L.G.A has 46 registered cooperative societies and all of them are famers cooperatives. Orumba North L.G.A has 119 registered cooperative societies out of the 31 registered cooperatives 31 of them are famers' cooperatives. Orumba South L.G.A has 219 registered cooperative societies out of the 219 registered cooperatives 66 of them are famers cooperatives. Awka North L.G.A has 99 registered cooperative societies out of the 99 registered cooperatives 57 of them are famers cooperatives. Idemili South L.G.A has 142 registered cooperative societies out of the 142 registered cooperatives 66 of them are famers cooperatives (Cooperative Department, Ministry of Commerce, Iindustry and Tturism, Awka, 2012). Two farmers' cooperative societies were randomly selected from each of the six (6) purposively selected local governments in the three (3) senatorial zones of the state. Making a total of twelve (12) famers' cooperative societies, with a membership strength of two hundred and ninety-eight (298).

**Sample Size and Sampling Technique**

The table below shows the societies selected.

| Names of societies | Towns | Membership Males | Membership Females | Total | Sample size |
|---|---|---|---|---|---|
| Ofuobi Otuocha FMCS Ltd | Otuocha | 17 | 3 | 20 | 12 |
| Umeleri FMCS Ltd | Umuleri | 32 | 10 | 42 | 24 |
| Igwebuike Nzam(FUG)MCS Ltd | Nzam | 11 | 4 | 15 | 9 |
| Chukwubueze Oroma-Etiti Anam MCS | Anam | 9 | 6 | 15 | 9 |
| Udoka Ufuma FMCS Ltd | Ufuma | 20 | 6 | 26 | 15 |
| Chukwugozie Awgwu FMCS Ltd | Awgbu | 17 | 11 | 28 | 16 |
| Ndubueze Ihite FMCS Ltd | Ihite | 35 | 2 | 37 | 21 |
| Umuosaku Umunze FMCS | Umunze | 15 | 12 | 27 | 16 |
| Ezinauno Achalla FMCS | Achalla | 14 | 21 | 35 | 20 |
| Nkpadilionye Ugbene FMCS | Ugbene | 24 | 07 | 31 | 18 |
| Chidimma Alor FMCS Ltd | Alor | 7 | 3 | 10 | 6 |
| Ezeamadi Akwukwu FMCS Ltd | Akwukwu | 7 | 5 | 12 | 7 |
| Total | | 208 | 90 | 298 | 171 |

To determine the sample size for the purpose of questionnaire distribution, the Yaro Yamaini formula was used. The formula is stated thus:

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

Where n = Sample size
N = Population
e = Margin of error (5% or 0.05)
I = Constant

Substituting in the above formula:

$$n = \frac{298}{1+298\ (0.05)^2}$$

$$= \frac{298}{1+0.745}$$

$$= \frac{298}{1.745}$$

$$= 170.77$$

$$= 171$$

For the purpose of allocation of sample stratum, the researcher adopted R. Kumaisons (1997) formular. Blow is the R. Kumaisons formula for sample size distribution:

$$= \frac{n\ Nh}{N}$$

Where
n = Total sample size
Nh = The number of items in each stratum in the population
N = Population size
nh = The number of unit allocated to each stratum.

**Data Collection**

The researcher explored mainly the primary source of data for the study. The primary data was obtained from members of the selected Farmers Cooperative Societies through the use of a structured questionnaire that was administered them.

**Data Collection Instrument**

The researcher developed questionnaire which was used to collect data for the study. The questionnaire was titled an appraisal of the factors that determine income inequality among cooperative farmers in rural Anambra State. The questionnaire has two sections. Section A and Section B. Section A sought information on socio-economic background of respondents. Section B was made up of items relating to the appraisal of the factors that determine income inequality among cooperative farmers in rural Anambra state. It sought the farmers' responses on the factors that determine income inequality among cooperative farmers and other agricultural production activities by cooperative farmers in rural Anambra state. Out of the 171 questionnaires distributed only 115 were dully completed and returned.

**Analytical Tools**

Descriptive and inferential statistics was used in the study. Descriptive statistical tools were used in analyzing the specific objectives. The t-test was performed to test the significance of each of the explanatory variables at alpha level of 5%.

## DATA PRESENTATION AND ANALYSIS

### Socioeconomic characteristics of the respondents

**Table 1: Distribution of respondents according to socioeconomic characteristics of the respondents**

| Options | Frequency | Percentage% |
|---|---|---|
| Gender | | |
| Male | 78 | 67.8 |
| Female | 37 | 32.2 |
| **Total** | 115 | 100 |
| **Age** | | |
| ≤ 20 | - | - |
| 21-30 | - | - |
| 31-40 | 23 | 20.0 |
| 41-50 | 38 | 33.0 |
| 51-60 | 22 | 19.2 |
| 61 and above | 32 | 27.8 |
| **Total** | 115 | 100 |
| **Marital Status** | | |
| Married | 90 | 78.3 |
| Single | 13 | 11.3 |
| Divorce | - | - |
| Widow/widower | 12 | 10.4 |
| **Total** | 115 | 100 |
| **Educational Qualification:** | | |
| Not Educated | 16 | 13.9 |
| Primary | 62 | 53.9 |
| Secondary | 31 | 27.0 |
| Tertiary | 6 | 5.2 |
| **Total** | 115 | 100 |
| **Farming Experience (years)** | | |
| <1 | - | - |
| 1-5 | - | - |
| 6-10 | 16 | 13.9 |
| > 10 | 99 | 86.1 |
| **Total** | 115 | 100 |
| **Farm size (hectares)** | | |
| ≤1 | 31 | 27.0 |
| 1-3 | 60 | 52.2 |
| 4-7 | 16 | 13.9 |
| > 7 | 8 | 6.9 |
| **Total** | | 100 |
| **Family Size (numbers)** | | |
| 1-3 | 14 | 12.2 |
| 4-6 | 32 | 27.8 |
| 7-9 | 59 | 51.3 |
| Above 9 | 10 | 8.7 |
| Total | 115 | 100 |

**Source: Field Survey, 2018.**

As shown in table 1, majority 67% of the respondents are males which is an indication that the cooperative societies are composed of mainly male headed household and naturally they are meant to be the bread winners of the family. So, there engagement in cooperative will enable them earn more income as a result of synergy to sustain their family. All the respondents are above thirty years of age with 27% of them above 60 years of age indicating that they are all matured adults who are capable of handling various kinds of farming activities to improve their income, however, the productivity of those above 60 years of age will likely drop which will result in income variation. About 78% of the respondents are married and are living with their family. This invariably will provide a cheap source of farm labour. This will create a wide income disparity between households with large family size and households with small family size. The farmers' level of education as shown in table 4.1 indicates that over 80% of the people are educated, 13.9% are not educated while 52.9% have low education. According to Odu (1996) as cited by Hyande, Oboh and Ezihe (2007) if farmer are uneducated and conservative, it can lead to managerial problem. About 86% of the farmers have over ten years of farming experience which is an indication of increased productivity but experience alone does not count where factors like farm size among others is considered. The farm size shows a wide disparity which is an indication of inequality in the farmers' income as a result perceived variation in their productivity. Obinyan (2000) described the implication of small farm size of rural farmers thus: "Their holdings are small most often less than two hectares and are characterized by low productivity which leads to low income and low capital investment. 60% of the respondents have above six persons as family size. This is capable of being a source of cheap labour to the farmers. At the same it increases dependency ratio consequently affecting the income of farmers with large family size. It can be stated here that the knowledge of factors that increases or reduces income variation among cooperative farmers will them in reducing income inequality.

**Income levels of the cooperative farmers:**

**Table 2: Distribution of respondents according to the income levels of the cooperative farmers**

| Option in Naira | Frequency | Percentage% |
|---|---|---|
| 1000 – 10000 | **32** | **27.8** |
| 11000 – 20000 | **18** | **15.7** |
| 21000 – 40000 | **4** | **3.5** |
| 41000 – 60000 | **11** | **9.6** |
| Above 60000 | **50** | **43.4** |
| **Total** | **115** | **100** |

**Source: Field Survey, 2018**

From table 2, over 40% of the respondents earn #20,000 and below while over 40% as well earn above #60,000 as income Variation, inequality and disparity amongst the respondents. According to Oyekale, Adeoti and Ogunnupe (2003) income inequality is detrimental to economic growth and development. They attributed the Increasing income inequality in the rural and urban areas to the growing dimensions of poverty.

**Table 3 Factors that determines income variation among cooperative farmers**

| s/n | Item | Mean | Probability |
|---|---|---|---|
| 1 | Farmers Efficiency | 3.81 | 0.00 |
| 2 | Technology | 3.72 | 0.04 |
| 3 | Market Proximity | 2.29 | 0.19 |
| 4 | Credit obtained | 3.70 | 0.02 |
| 5 | Farm size | 3.80 | 0.01 |
| 6 | Soil Fertility | 3.11 | 0.05 |
| 7 | Crop type | 3.72 | 0.04 |
| 8 | Input supply | 3.29 | 0.03 |
| 9 | Agric extension services | 3.70 | 0.01 |
| | | | |

**Source: Field Survey, 2018**

Apart from market proximity which was not significant, all other factors contributed significantly to the farmers' income. The estimated determinant of cooperative farmer income were summarized and presented in table 3. The probability value of the variables is less than 0.05 which implies that eight of the explanatory variables accounted for major determinants of income inequality among the farmers. Farmers Efficiency maintained a high mean value, implying the more productive and efficient a farmer is the more his income increases. Technology also maintained a high mean value with respect to farmers' income. When a farmer adopts new farm innovation his productivity tends to increase and consequently his income increases. Agric extension services and credit obtained had high mean values which imply that adequate financing of the agric production increases farm income as result of increased productivity. The high mean value of Farm size also increases the farmers' income. This implies that as the productivity of the farmer increases with the farmers income will also increase. Soil Fertility, crop type, and input supply meet the theoretical threshold of 3.0 and are also significant determinants of income inequality among cooperative farmers in the area of study.

**FINDINGS AND RECOMMENDATIONS**

This study has examined the determinants of income inequality among cooperative farmers in Anambra State. It has specifically examined the socioeconomic characteristics of the cooperative farmers, ascertained the income levels of the cooperative farmers and identifies factors that determine income variation among cooperative farmers. Findings revealed that apart from market proximity which was not significant, all other factors (Farmers Efficiency, Technology, Credit obtained, Farm size, Soil Fertility, Crop type, Input supply and Agric extension services) contributed significantly to the farmers' income. The estimated determinant of cooperative farmer income were summarized and presented in table 3. The probability value of the variables is less than 0.05 which implies that eight of the explanatory variables accounted for major determinants of income inequality among the farmers.

This study therefore recommends that:

1. The government should carry out a public enlightenment campaign on the potentials of agricultural cooperatives as sustainable approach for reducing income inequality through synergy. And emphasis should be placed more on cooperative education as requirement for growth and development since most of the people in the target areas have low educational background.

2. The agricultural cooperative subsector should be adequately financed to help improve the farmers' income and also reduce income inequality
3. Agricultural technology transfer through extension services should be encouraged to help create awareness and increase adoption of better ways farming so as to increase the farmers' income and reduce income inequality.
4. Adequate infrastructure and facilities for manpower development is needed to develop the youths in the needed skill for agricultural production to earn better income since they are lacking in the subsector.

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