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RESEARCH ARTICLE

Effect of Federal Grant on Agricultural Cooperatives in Enugu State, Nigeria

Ogbodo, Amobi John[1], Ugwa, Tochukwu Nonyelum[2] and Igwe, Alex Onyeji[3]

[1]Department of Cooperative Economics and Management, Enugu State University of Science and Technology, Enugu
[2]Department of Public Administration, Akanu Ibiam Federal Polytechnic Unwana
[3]Department of Accountancy, Enugu State University of Science and Technology, Enugu

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ABSTRACT

The study examined the effect of federal grants on agricultural cooperatives in Enugu state, Nigeria. Specifically, the study adopts federal grants as the independent variable of both agricultural inputs, agro-processing/marketing, and financing agricultural cooperative that serve as dependent variables. A survey research design. The study adopts primary source of data. The data were collected using a well-structure questionnaire. The data were analysed using Chi-Square, frequency tables and simple percentages. The result revealed that federal grant has contributed to agricultural input, federal grant has positive significance effect on agro-processing/marketing and federal grant do contribute in the financing of agricultural cooperative. We concluded that federal grant is a means to support the agricultural cooperatives in Nigeria in general. We recommended all tiers of government (federal, state and local) and many other private and NGO's organizations should involve in using grants to contribute in the agricultural inputs to support agricultural cooperatives in Enugu, Nigeria.

Keywords: *Agricultural Cooperatives; Federal Grant; NGO's Organization; Enugu and Nigeria*

Introduction

In Nigeria, federal grants are economic aid issued by the Nigerian government out of the general federal revenue. A federal grant is an award of financial assistance from a federal agency to a recipient to carry out a public purpose of support or stimulation authorized by a law of the Nigerian government (Wikipedia). Grants are federal assistance to individuals, benefits, or entitlements. A grant is not used to acquire property or services for the federal government's direct benefit. Grants may also be issued by private non-profit organizations such as foundations, not-for-profit corporations, or charitable trusts which are all collectively referred to as charities. Outside Nigeria, grants, subventions, or subsidies are used similarly by government or private charities to subsidize programs and projects that fit within the funding criteria of the grant-giving entity or donor (Kanu, & Ukonze 2018). Grants can be unrestricted, to be used by the recipient in any fashion within the perimeter of the recipient organization's activities or they may be restricted to a specific purpose by the benefactor (Stephen and Basil 2012). Getting a government grant is an extremely competitive process, Paperwork is complex and applicants must describe how the awarded funds will benefit the agricultural sector or the public at large (Taiwo, Udunze, and Agbasi 2015). Crafting a convincing proposal is so challenging that applicants often hire professional help. Some freelance writers specialize in writing grant proposals. The grantee is not expected to repay the money but is expected to use the funds from the grant for their stated purpose, which typically serves some larger good. In certain cases, there may also be revenue-sharing agreements with the government for instance, in the case of a discovery that leads to a profit-generating patent (Olley 2011). Twenty-six federal agencies administer more than 1,000 grant programs annually to provide funding for the agricultural sector, arts, the sciences, and educational institutions especially in the rural area. Agricultural Development Programmes (ADP) was said to have been originally designed in the East of Africa, to tackle the problem of poverty (Manyong, Ikpi, Olayemi, Yusuf, & Idachaba 2010). The economic development in the rural areas of East Africa had been promoted through a strategy which focused on the contribution of improved technologies for food crops, enhanced delivery systems for agricultural extension and input supply, and improved infrastructure (Idode 2019). This approach ADP, was transferred to Nigeria in 1974 with the establishment of the first three enclave projects in the Northern part of the country. This includes Funtua, Gusau, and Gombe Agricultural Development Programmes (Hasan 2013). The chosen project regions were agroecological favourable areas in the northern part of Nigeria. They were located in the domain of several Local Government Councils (LGCs) of Bauchi, Gombe, Kaduna, and Sokoto States (Idrisa et al., 2010). The apparent success of these early projects prompted both the Federal Government of Nigeria and the World Bank to quickly replicate the Agricultural Development Programme model in other states. From 1975 to 1980, the number of projects grew from the original three to a total of nine enclave projects, which include the Ekiti-Akoko Agricultural Development Project, out of which Ekiti-State Agricultural Development Programme was created. A Federal entity titled Agricultural Projects Monitoring Evaluation and Planning Unit (1975), reviewed in recent times was created to support the Agricultural Development Programme projects (Akinbamowo 2013). In the background above, see that federal grant and agricultural cooperatives are very significant variables for Nigeria economy at large especially the rural areas in Nigeria and need to be dealt with deeply, on this note the researcher, carried research on the effect of federal grant on agricultural cooperatives in Enugu state, Nigeria.

Statement of the Problem

Federal government of Nigeria has solved many problems and still solving until it will come to the minimum bearable level grand by funding them, through different programs related to several sector of the economy (agricultural sector, educational sector, SMSE's etc.) through federal grant. A grant is a way the government funds your ideas and projects to provide public services and stimulate the economy (Wikipedia). Grants support critical recovery initiatives, innovative research, and many other programs listed in the Catalog of Federal Domestic Assistance (CFDA). Relating to this research study, there are some areas the federal government need to look into critically with federal grant programme. Areas like agricultural input, agro-processing/marketing and financing agricultural cooperatives; this will help the agricultural cooperatives in Enugu state much under the agricultural sector of the Nigeria economy. Agricultural cooperatives face the challenges of farm tools, fertilizers and other materials for their works as cooperative farmers, lack good machines for farm produce processing, security and road network to enable farmers market their produce conveniently and above all cooperative farmers needs funds support to assists their ideals and also support their farming work. This why federal government need to extend their hands to the areas

reviewed above by the research through the federal grant programme, based the above problem reviewed, the researcher has conducted research on the effect of federal grant on agricultural cooperatives in Enugu state, Nigeria.

Objectives of the Study

The general objective of the study is to examine the effect of federal grant on agricultural cooperatives in Enugu state, Nigeria and the specific objectives are to:

I. Determine the extent federal grant have contributed to agricultural input in Enugu State of Nigeria.
II. Examine the effect of federal grant on agro-processing/marketing in Enugu State of Nigeria.
III. Ascertain the contribution of federal grant on financing agricultural cooperative in Enugu State of Nigeria.

Research Hypotheses

The following null hypotheses are formulated from the research questions:

I. Federal grant has not contributed to agricultural input in Enugu State of Nigeria.
II. Federal grant has negative significance effect on agro-processing/marketing in Enugu State of Nigeria.
III. Federal grant does not contribute in the financing of agricultural cooperative in Enugu State of Nigeria.

Review of Related Literature

Conceptual Review

Federal Grant

Government grants aren't just bestowed: they must be applied for.6 Getting a government grant is an extremely competitive process. The paperwork is complex and applicants must describe how the awarded funds will benefit the local community or the public at large. Crafting a convincing proposal is so challenging that applicants often hire professional help. Some freelance writers specialize in writing grant proposals. Grants from the federal government are authorized and appropriated through bills passed by Congress and signed by the president.7 Grant authority varies among agencies. For example, the Small Business Administration (SBA) may distribute grants to non-profit organizations in many of its counselling and training programs. In Nigeria, government had purposively designed series of social investment programmes in the time past mainly with a view to solving the incessant problems of poverty, unemployment and inequality. In some point in times, it is categorically geared towards reducing the rate of youth restiveness in volatile areas and states of the federation. At Nigeria's independence in 1960, there were serious of notable youth programmes aimed at facilitating social investments especially for the youth population. For instance, Nnamdi, Aminu and Emeka (2013) noted that between "the periods between 1962 -1968, 1970 – 1974 (National Accelerated Food Production Programme-NAFPP), 1975 – 1980 and 1981- 1985 were designed by various governments to provide basic infrastructure, diversify the economy, reduce the level of unemployment, achieve dynamic self-sustaining growth and raise the living standard of people." In the same trends, Adoba (2017) and Orji (2015) also stressed that the subsequent social investment programme, after 1985 up till 1999, were geared towards small and median enterprises and scale trading, reduction of poverty especially among the youth as well as sectoral engagements in the operationalization of the state economy. In retrospect, some policies were introduced in the 70s aimed at eradicating the poverty in Nigeria are; Operation Feed the Nation (OFN) in 1977, Free and Compulsory Primary Education (FCPE) in 1977, Green Revolution (GR) in 1980, etc. On the one hand, GR and OFN programmed were designed and implemented to increase the production of agricultural output and facilitate the effectiveness of the performance roles of sub-sectors in the agricultural sector (Ibrahim & Umar, 2008). On the other hand, FCPE was established to reduce high level of illiteracy across local areas in Nigeria. Notably, these programmes recorded a lot of laudable achievements by improving the educational and social qualities of many people residing at the rural areas (Agboola & Lamidi, 2017). However, CBN (1998) identified the inability of the programme continuity to poor political will, social instability and peoples' commitment. Subsequent discussions take note of an overview of some of the programmes in relation to their output and outcome in Nigeria.

Agricultural Cooperatives

Cooperatives help build sustainable communities in rural areas, the role of cooperatives in agricultural development is numerous. Cooperated growers enter a bigger market to sell their goods and buy input supplies at lower prices. More opportunities mean better economic development and the rural population's welfare. Rural co-operatives

support various needs. There are rural cooperatives for education, healthcare, hardware, household and machinery supplies, etc (Wikipedia). The first agricultural cooperatives were created in Europe in the seventeenth century in the Military Frontier, where the wives and children of the border guards lived together in organized agricultural cooperatives next to a funfair and a public bath (Wikipedia). The first civil agricultural cooperatives were created also in Europe in the second half of the nineteenth century (Wikipedia). They spread later to North America and the other continents. They have become one of the tools of agricultural development in emerging countries. Farmers also cooperated to form mutual farm insurance societies (Wikipedia). Also related are rural credit unions. They were created in the same periods, with the initial purpose of offering farm loans. Some became universal banks such as Crédit Agricole or Rabobank. In agriculture, there are broadly three types of cooperatives: a machinery pool cooperative, a manufacturing/marketing cooperative, and a credit union cooperative.

i. **Machinery pool**: A family farm may be too small to justify the purchase of expensive farm machinery, which may be only used irregularly, say only during harvest; instead, local farmers may get together to form a machinery pool that purchases the necessary equipment for all the members to use.
ii. **Manufacturing/marketing cooperative**: A farm does not always have the means of transportation necessary for delivering its produce to the market, or else the small volume of its production may put it in an unfavourable negotiating position with respect to intermediaries and wholesalers; a cooperative will act as an integrator, collecting the output from members, sometimes undertaking manufacturing, and delivering it in large aggregated quantities downstream through the marketing channels.
iii. **Credit Union:** Farmers, especially in developing countries, can be charged relatively high interest rates by commercial banks, or credit may not even be available for farmers to access. When providing loans, these banks are often mindful of high transaction costs on small loans, or may refuse credit altogether due to lack of collateral – something very acute in developing countries. To provide a source of credit, farmers can group together funds that can be loaned out to members. Alternatively, the credit union can raise loans at better rates from commercial banks due to the cooperative having a larger associative size than an individual farmer. Often members of a credit union will provide mutual or peer-pressure guarantees for repayment of loans. In some instances, manufacturing/marketing cooperatives may have credit unions as part of their broader business. Such an approach allows farmers to have a more direct access to critical farm inputs, such as seeds and implements. The loans for these inputs are repaid when the farmer sends produce to the manufacturing/marketing cooperative (Wikipedia).

Agricultural Inputs

To maximize production, farmers need to use agricultural inputs to boost their harvest, especially smallholders. Agricultural inputs are any external resources that are applied to the soil to increase farmers' yields and income. They can be high quality seeds, Fertilizers, Insecticides, Pesticides, Irrigation equipment, Poultry birds and products, relevant information, water, high technology tractors etc. it's any resource you use to increase your agribusiness/farming success rate (Dolan and Humphrey, 2011). There are unlimited types of farm inputs, but we have two major categories; Consumable inputs and Capital inputs.

Consumable Inputs:

These are common daily agricultural inputs that are "consumed" by crops e.g., seeds, day old chicks, pesticides, herbicides, insecticides, fertilizers, farm tools, equipment etc. They're the most basic but essential for smallholders' farmers. Agrochemicals are essential to prevent pests. Mulch can be a deterrent to preventing weed growth. High quality seeds are needed to ensure the health of the crop from the start.

Capital Inputs:

Are farm inputs that are generally more advanced in machinery and technology. These agricultural inputs cannot be consumed by the crop itself. These inputs should be seen as tools for farms both larger farms and smallholder farmers. Smallholder farmers generally do not use capital inputs like tractors and plough because it is a big investment. Capital inputs consists of materials such as tractors, nylon netting, stakes, plough, irrigation systems, reflective roofing, trellis material etc. Certain types of farm inputs are more ecological than other types of farm inputs. With the rapid development of global warming, we recommend that every farmer try as much as possible to achieve sustainable development. We understand that sustainable agriculture is often a challenge for smallholder

farmers because they have limited resources, but this is not impossible. Smallholders can achieve green and environmental protection by incorporating integrated pest management methods into their daily work. Integrated pest control methods use organic and inorganic materials to repel pests. By finding a precise balance between the two, small farmers can use sustainable farming methods and ensuring high yields.

Agro-Processing/Marketing

Agricultural processing is the processing of crops after harvest, to prepare them for on-site marketing or processing and packaging elsewhere, including, but not limited to, the following; provided, that any of the activities performed in the field with mobile equipment not involving permanent buildings are included under "Crop production." Agricultural processing is the processing of crops or milk to produce a product primarily for wholesale or retail sale for human or animal consumption, including but not limited to potato, fruit, vegetable, and grain processing (Asea, and Kaija, 2020). Agro-industry, understood here broadly as post-harvest activities involved in the transformation, preservation and preparation of agricultural production for intermediary or final consumption, typically increases in importance relative to agriculture and occupies a dominant position in manufacturing as developing countries step up their growth. Basic trends in both non-food and food are presented but the report as a whole focus on the food sector (Aksoy, 2015).

In all developing countries population growth is becoming predominantly an urban phenomenon increasing the role of agro-industry in mediating food production and final consumption. While many longstanding commodity exports have declined in importance, so called "non-traditional" food exports – especially fruits, horticulture, and fish products – and components of the animal protein complex have become central to developing country exports (Athukorala & Sen, 2018). Whether looked at from the point of the domestic market or exports, therefore, agro-industry plays a fundamental role in the creation of income and employment opportunities in developing countries. In addition, it plays a decisive role in pro-poor development strategies to the extent that it can promote decentralized growth and generate non-farm activities in rural areas (Blowfield, Malins, & Dolan, 2018). Agricultural marketing covers the services involved in moving an agricultural product from the farm to the consumer. These services involve the planning, organizing, directing and handling of agricultural produce in such a way as to satisfy farmers, intermediaries and consumers. Numerous interconnected activities are involved in doing this, such as planning production, growing and harvesting, grading, packing and packaging, transport, storage, agro- and food processing, provision of market information, distribution, advertising and sale (White, John 2013). Effectively, the term encompasses the entire range of supply chain operations for agricultural products, whether conducted through ad hoc sales or through a more integrated chain, such as one involving contract farming. Efforts to develop agricultural marketing have, particularly in developing countries, intended to concentrate on a number of areas, specifically infrastructure development; information provision; training of farmers and traders in marketing and post-harvest issues; and support to the development of an appropriate policy environment. In the past, efforts were made to develop government-run marketing bodies but these have tended to become less prominent over the years (Abbott 2016).

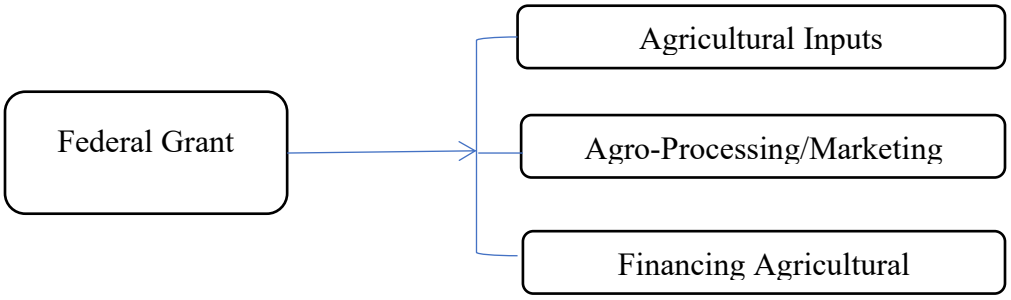
Financing Agricultural Cooperative

Agricultural service cooperatives have a great potential to promote growth in the rural areas of the developing world (Opeyemi 2018). They can, and do, bring people and funds together to provide a broad range of pre-harvest and postharvest services to farmers. Multipurpose cooperatives, the most modern form in the agricultural sector, provide both types of services—from the supply of credit, farm inputs (like fertilizer and seeds), and machinery to storage, processing, and marketing services (Yamusa & Adefila, 2014). In spite of an often-poor financial record, agricultural cooperatives have proliferated, partly because they appeal both to governments and to farmers. Governments like them for several reasons: they mobilize self-help resources that might otherwise be left unused; they attract assistance from foreign cooperative societies and aid agencies; and they offer the authorities an established base that could be used either to achieve social welfare objectives or to implement development programs in the rural sector (Olabisi, Agbasi, Kamaldeen, Okafor 2015). This latter attraction of cooperatives is particularly appealing in countries where the government has a limited institutional presence in the rural areas. Farmers, on the other hand, seem to be attracted by the idea of cooperatives whether for ideological reasons or for the economic benefits cooperatives can offer their members in the form of government subsidies and the economies of scale that result from collective action. Many agricultural activities, for instance, require more capital investment

than a farmer can, or will, provide alone. A cooperative venture can draw in funds from other farmers and attract outside financing to support its activities (Manyong, Ikpi, Olayemi, Yusuf, & Idachaba, 2014).

Conceptual Framework

The conceptual framework of the effect of federal grant on agricultural cooperatives in Enugu state, Nigeria. Federal grant stand as the dependent variable and Agricultural Cooperatives is the independent variable, which is splits into sub-variables.



Theoretical Review

Federal Grant

Philip (2017) presents a comprehensive political theory on intergovernmental grants. The theory revolves around a model of federal politicians who strive to maximize their votes. According to this model, grants serve as a means to secure the support of state voters, while also acquiring the "political capital or resources" possessed by state politicians and interest groups. These resources can then be utilized to further bolster the support of state voters for the federal politician.

To validate the model, the author conducts a test involving 49 states. The results indicate that the degree of similarity in party affiliation between federal and state politicians, as well as the magnitude of the Democrat majority in the state legislature, positively influence the per capita dollar amount of grants allocated to a given state. Moreover, an increase in both the size of the state bureaucracy and union membership is found to correspond with larger grants awarded to a state. Notably, over time, the significance of interest groups, such as the bureaucracy and unions, has escalated in comparison to political groups, namely state politicians.

Agricultural Input

Ephraim and Andrew (2013) provide a comprehensive review of the evolving theory and practice of agricultural input subsidies. The review focuses on studies that assess the impact of subsidies on farmers, farm households, wage laborers, and food consumers in low- or lower-middle-income countries. The analysis encompasses 15 experimental and quasi-experimental studies, as well as 16 simulation modelling studies. The majority of these studies concentrate on sub-Saharan Africa, with a particular emphasis on Malawi, and primarily investigate subsidized fertilizers and seeds.

The findings suggest that the provision of fertilizers and seed subsidies leads to increased utilization of these inputs, higher agricultural yields, and augmented income for farm households. However, the evidence regarding the impact of these subsidies on poverty reduction remains limited. The review also highlights the prevalence of inefficiency, bias, and corruption within subsidy schemes.

The simulation models indicate that the introduction or expansion of subsidies generally yields positive effects for consumers and promotes overall economic growth. However, the outcomes are influenced significantly by factors such as the funding mechanism of the subsidies, world input prices, and the targeting of beneficiaries.

Interestingly, the authors note a lack of studies examining subsidies specifically for agricultural machinery, as most of the research has focused on fertilizers and seeds.

Agro-Processing/Marketing

In Meulenberg's (2017) work titled "The evolution of agricultural marketing theory: towards better coordination with general marketing theory," the author delves into the development of agricultural marketing theory and its alignment with general marketing theory. The underlying premise is that as individuals in a society become more specialized in their economic activities, they start relying on others to fulfil some of their product and service needs. This reliance initiates a process of exchange between buyers and sellers.

Initially, buyers and sellers maintain direct contact, allowing them to understand each other's needs, values, and willingness to engage in exchanges. However, as the economy progresses, the scope and variety of exchanges expand, necessitating specialized marketing services such as physical distribution, storage, grading, and market information gathering. As the number of participants in the market grows, intermediaries emerge to provide these specialized services, acting as intermediaries between sellers and ultimate buyers. Consequently, direct contact between buyers and sellers becomes less common, and communication between them is channelled through a complex marketing system.

The introductory chapter of the book focuses on exploring the nature of marketing and marketing systems in light of these developments. It lays the groundwork for understanding the evolution of agricultural marketing theory and its relationship with general marketing theory.

Financing Agricultural Cooperative

Ivan Emelianoff's dissertation on the "Economic Theory of Cooperation" in 1942, several U.S. researchers have made contributions toward further developing a theory of cooperation. These contributions often have come in waves as concerted efforts have been made to strike new directions, or to formulate refinements to the evolving economic theory of cooperation. Notable waves of activity can be identified with Frank Robotka (1947) and Richard Phillips (1953) at Iowa State University; Sidney Hoos and Peter Helmberger at the University of California (1962); Peter Helmberger and James Youde at the University of Wisconsin (1966); and George Ladd and Jeffrey Royer at Iowa State University (1978). Others also have made individual conceptual contributions such as those by Aaron Sapiro and E. G. Nourse, which predate Emelian off, and subsequent refinement by writers at various stations on a more sporadic basis.

Empirical Review

Bridget et al., (2021) examine the Empirical Analysis of Government Agricultural Spending and Agricultural Output in Nigeria. This study examined the relationship between government agricultural spending and agricultural output in Nigeria using annual time series data from 1981 to 2019. This study used descriptive and analytical techniques such as descriptive statistics, Augmented Dickey-Fuller test, VEC Granger Causality/Block Exogeneity Wald test, Johansen co-integration test, vector error correction test, impulse response, and variance decomposition. The study found that all variables were not stationary at level but became stationary at first difference. The study also revealed that there is a positive effect of government agricultural spending on agricultural output in Nigeria, though, significant in the long-run only. The study also showed that there is a bidirectional relationship between government agricultural spending and agricultural output in Nigeria at 10% level of significance and that agricultural output would respond positively to shocks in government agricultural spending in Nigeria during the forecast period. Romanus, Ngozi and tyrone, (2020) Agro-financing and food production in Nigeria. This study examines how agro-financing impacts on food production in Nigeria supporting Goal 2 of the 2030 Sustainable Development Goals (SDGs) which aims to *"*end hunger, achieve food security, improve nutrition, and promote sustainable agriculture". The study covers the period 1981–2018 using annual data sourced from the World Development Indicators (WDI) of the World Bank, Central Bank of Nigeria (CBN) Statistical Bulletin. The Johansen and the Canonical Cointegration approaches are employed and findings reveal that agro-financing is statistically significant in explaining the level of food production in Nigeria. The result implies that a 1% increase in farmers' access to agricultural finance is associated with an increase in food production by 0.002%–0.006% depending on the model specification. Ofuoku and Urang (2019) assessed the effect of cohesion of farmer co-operatives societies on loan repayment among members in Delta State, Nigeria using Spearman's rank order correlation analysis. The study observed that there was almost perfect positive relationship between rates of loan repayment perception and cohesion. Consequently, they recommended

that extension agents should take advantage of the effect of cohesion on loan repayment to promote cohesion in upcoming co-operative societies. In evaluating agricultural credit utilization by cooperative farmers in Benue State, Nigeria, Okwoche et al (2001) observed a significant difference between the agricultural output and income of farmers' before and after the utilization of loan acquired. The t-test analysis shows that farmers joined the farmer co-operatives societies mainly to access credit.

Ojiya (2017) examines An Empirical Analysis of the effect of Agricultural Input on Agricultural Productivity in Nigeria. The main object of this study is to investigate the effect of Agricultural input on Agricultural productivity in Nigeria from 1990 to 2016 using secondary annual time series data sourced from World Bank database (2016) and Central Bank of Nigeria Statistical Bulletin (2016). The methodology adopted for the study was first and foremost unit root test by Augmented Dickey-Fuller (ADF) approach; a test for long run relationship (Johansen cointegration), Granger causality test and then the Ordinary Least Squares (OLS) multiple regression method. Variables in the model were both stationary as well as exhibited long run equilibrium relationship. Empirical OLS regression result revealed an inverse relationship between government expenditure and agricultural output. Onugu and Abdulahi (2012) the performance of agricultural cooperative societies under the national programme on food security in Enugu state, Nigeria. National programme on Food Security (NPFS) is a special programme introduced by the Federal government of Nigeria on agricultural activities in order to increase food production in the country. This study is therefore an appraisal of the performance of agricultural cooperative in the National food security programme. The study was carried out in Aniri Local Government Area of Enugu State. The specific objective of the study is 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. Simple percentage and statistical package for social sciences (SPSS version 17) was employed in analysing the data and correlation analysis was used to pair the two variables (farmers and extension workers) and t-test was used to test the hypothesis. The study revealed that agricultural cooperative societies are effective means of accessing agricultural services under NPFS. The study also revealed that both farmers and ADP extension workers encountered some challenges in their bid to achieve the goal of the programme.

Methodology

A research design is a plan of investigation that specifies the sources and types of information relevant to the research question (Chukwuemeka, 2018). And the study adopts survey research design, in order to be specific in data information involve in the study. The study adopts primary source of data. The data were collected using a well-structure questionnaire. The study comprises of three local government areas of Enugu North Senatorial District of Enugu State, Nigeria. The areas are Igbo-Etiti LGA, Igboeze-North LGA and Uzo-Uwani LGA. Enugu North Senatorial Zone have a large geographical area of land and share boundary with some of the central North States, that is why the people are good farmers of any agriculture kind and they are still involve mostly in the political affair of the state and above all good business people. The population of this study is made up of the total members of 15 agricultural co-operatives operating in three Local Government areas of Enugu North Senatorial District of Enugu state, that have experienced federal grant opportunities in their areas. Five registered agricultural cooperatives from each local government area, selected randomly according to, who is ready to give useful information concerning the research work, this amounted to 394. The research used Taro-Yamani formula to determine the sample size. It amounts to 199. The data from the questionnaire were analysed using frequency tables and simple percentages. Brief analytical comments were used to summarize the findings of those questionnaires as shown in chapter four of this work. Simple percentage formula used will be shown below:

$$\frac{f}{N} \times \frac{100}{1}$$

Where f = frequency

N = sum of cumulative frequency

The hypotheses were tested using the chi-square statistical tool; given as:

$$x^2 = \sum \frac{(o-e)^2}{e}$$

Where Σ = summation sign

o = observed frequency data

e = expected frequency data

Decision Rule: If the calculated value is less than the critical value, accept hypothesis otherwise reject hypothesis.

Data Presentation and Analysis

Presentation of Data

The data is presented on tables and analysed using inferential statistics.

Table 1: Table of questionnaire distribution

Categories	*Copies of Questionnaire Distributed*	*Copies of Questionnaire Returned*	*Number of Valid Questionnaire*	*% valid Questionnaire*
Respondents	199	175	140	80.00
Total	**199**	**175**	**140**	**80.00**

Source: Field Survey, 2023

Table 1 shows that of the 199 copies of questionnaire distributed, 175 were returned. Of the returned copies, 140 were valid, which represents 80.00% validity rate.

Data Analysis

Table 2: Distribution of Responses on the Extent Federal Grant has contributed to Agricultural Input

Response Option	*No. of Respondents*	*Percentage (%)*
Very Great extent	20	14.3
Great Extent	30	21.4
Low Extent	15	10.7
Very Low Extent	35	25
Undecided	40	28.6
Total	**140**	**100**

Source: Field Survey, 2023

From the above table, 20 respondents representing 14.3% show that federal grant has contributed to very great extent on agricultural input in Enugu state, 30 respondents representing 21.4% indicated to great extent, 15 respondents representing 10.7% indicated low extent, 35 respondents representing 25% identified very low extent and 40 respondents representing 28.6% for undecided.

Table 3: Distribution of Responses on the Effect of Federal Grant on Agro-Processing/Marketing

Response Option	*No. of Respondents*	*Percentage (%)*
Very Great extent	20	14.3
Great Extent	30	21.4
Low Extent	15	10.7
Very Low Extent	35	25

Undecided	40	28.6
Total	**140**	**100**

Source: Field Survey, 2023

From the above table, 20 respondents representing 14.3% show that federal grant has contributed to very great extent on agricultural input in Enugu state, 30 respondents representing 21.4% indicated to great extent, 15 respondents representing 10.7% indicated low extent, 35 respondents representing 25% identified very low extent and 40 respondents representing 28.6% for undecided.

Table 4: Distribution of Responses on the Federal Grant Contribution in the Financing of Agricultural Cooperatives

Response Option	*No. of Respondents*	*Percentage (%)*
Very Great Extent	20	14.3
Great Extent	30	21.4
Low Extent	15	10.7
Very Low Extent	35	25
Undecided	40	28.6
Total	**140**	**100**

Source: Field Survey, 2023

From the above table, 20 respondents representing 14.3% show that federal grant has contributed to very great extent on agricultural input in Enugu state, 30 respondents representing 21.4% indicated to great extent, 15 respondents representing 10.7% indicated low extent, 35 respondents representing 25% identified very low extent and 40 respondents representing 28.6% for undecided.

Test of Hypotheses

The hypotheses were tested using the chi-square statistical tool, which is given as;

$$x^2 = \sum \frac{(o-e)^2}{e}$$

Where: $x^2 = \text{chi} - \text{square}$

$o = \text{observed frequency}$

$e = \text{expected frequency}$

$\Sigma = \text{summation sign}$

Operational Assumptions

Level of significance 5% = 0.05

Degree of freedom (df) = (r – 1) (c – 1)

Where: $r = \text{Number of rows}$

$c = \text{Number of columns}$

$df = (2-1)(3-1)$

$1 \times 2 = 2$

Critical value or table value $= 5.991$

Hypothesis I

H_0: Federal grant have not contributed to agricultural input in Enugu North Senatorial Zone of Enugu state, Nigeria.

Table 5: Distribution of Responses on the Extent Federal Grant has contributed to Agricultural Input

Response Option	*No. of Respondents*	*Percentage (%)*
Very Great extent	20	14.3
Great Extent	30	21.4
Low Extent	15	10.7
Very Low Extent	35	25
Undecided	40	28.6
Total	**140**	**100**

Table 6: Chi-Square Table

0	*E*	*(o – e)*	$(o-e)^2$	$\frac{(o-e)^2}{e}$
20	28	-8	64	2.3
30	28	2	4	0.1
15	28	-13	169	6.0
35	28	7	49	1.8
40	28	12	144	**5.1**
140				**15.3**

Table value = 5.991; Calculated value = 15.3

Decision: Since the calculated value (15.3) is greater than the table value (5.991), the H_{01} (null hypothesis) is rejected and H_1 (alternative hypothesis) is accepted. This implies that Federal grant have contributed to agricultural input in Enugu North Senatorial Zone of Enugu state, Nigeria.

Hypothesis II

H_0: Federal grant have negative significance effect on agro-processing/marketing in Enugu North Senatorial Zone of Enugu state, Nigeria.

Table 7: Chi-Square Table

O	*E*	*(o – e)*	$(o-e)^2$	$\frac{(o-e)^2}{e}$
33	28	5	25	0.9
10	28	-18	324	11.6
5	28	-23	529	18.9
32	28	4	16	0.6
60	28	32	1024	36.6

140		**68.6**

Table value = 5.991; Calculated value = 68.6

Decision: Since the calculated value (68.6) is greater than the table value (5.991), the H_{02} (null hypothesis) is rejected and H_1 (alternative hypothesis) is accepted. This implies that Federal grant have positive significance effect on agro-processing/marketing in Enugu North Senatorial Zone of Enugu state, Nigeria

Hypothesis III

H_0: Federal grant does not contribute in the financing of agricultural cooperative in Enugu North Senatorial Zone of Enugu state, Nigeria.

Table 8: Chi-Square Table

O	*E*	*(o – e)*	$(o-e)^2$	$\frac{(o-e)^2}{e}$
25	28	-3	9	0.3
12	28	-16	256	9.1
18	28	-10	100	3.6
35	28	7	49	1.8
50	28	22	484	17.3
140				**32.1**

Table value = 5.991; Calculated value = 32.1

Decision: Since the calculated value (32.1) is greater than the table value (5.991), the H_{03} (null hypothesis) is rejected and H_1 (alternative hypothesis) is accepted. This implies that Federal grant do contribute in the financing of agricultural cooperative in Enugu North Senatorial Zone of Enugu state, Nigeria.

Summary of Findings

From the above analyses, the following findings were made:

1. Federal grant has contributed to agricultural input in Enugu North Senatorial Zone of Enugu state, Nigeria.
2. Federal grant has positive significance effect on agro-processing/marketing in Enugu North Senatorial Zone of Enugu state, Nigeria.
3. Federal grant does contribute in the financing of agricultural cooperative in Enugu North Senatorial Zone of Enugu state, Nigeria.

Conclusion

Agricultural inputs, agro-processing/marketing and financing agriculture are the main sources of agricultural cooperatives in Nigeria. Agricultural cooperative societies play an important role in supporting small agricultural farmers and marginalized groups such as young people and women. Furthermore, the Enugu North Senatorial Zone of Enugu state is full of individuals who have a great zeal and enthusiasm for farming. The problem is now how to go about it. They have no idea of what agriculture generally encompasses beyond planting and harvesting. This is the reason why federal governments have intruded with the instrument of federal grants to support agricultural cooperatives and small farmers in these areas under Enugu North Senatorial Zone of Enugu State, Nigeria. Concluding this research work with reviews, theories, empirical and the data analysis above, show as evidence that federal grant is a means to support the agricultural cooperatives in Nigeria in general.

Recommendations

Sequel to the findings, the study recommends as follow:

I. All tiers of government (federal, state and local) and many other private and NGO's organizations should involve in using grants to contribute in the agricultural inputs to support agricultural cooperatives in Enugu North Senatorial Zone of Enugu state, Nigeria.
II. Federal government should show positive effect using federal grant to help agro-processing/marketing in Enugu North Senatorial Zone of Enugu state, Nigeria.
III. Federal government should finance agricultural sector beyond imagination because agricultural sector is the bird rock of every nation before thinking of other sectors anywhere. From this research work federal government should support agricultural cooperatives in Enugu North Senatorial Zone financially.

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