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ASSESSMENT OF THE ROLES OF AGRICULTURAL COOPERATIVE SOCIETIES IN THE MARKETING OF AGRICULTURAL PRODUCE IN SOUTH EASTERN NIGERIA

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Abstract
The study assessed the roles of Agricultural cooperative societies in the marketing of the agricultural produce of members in the southeast region of Nigeria. A multistage sampling technique was used to select 283 respondents for the study. Descriptive and inferential statistics were used. Findings from the study showed that marketing channels selection was rated as the major role mean=3.82 that the cooperative society played in the marketing of the agricultural produce of members. While the overall performance of cooperative society was high mean=3.27, the highest performance indicator was the ease of access to the market mean=3.78. The major challenge confronting the marketing of agricultural produce was a lack of transparency (3.42) in the pricing of produce on behalf of the producers. Intensification of roles and performance of cooperative societies in the marketing of agricultural produce were positively correlated and statistically significant ($p<0.01$). It was concluded that cooperative societies play very important roles in the marketing of the agricultural produce of members. Their performance assessment was rated high. An increase in the roles of cooperative societies would lead to an increase in the performance of the marketing roles of the societies. The study recommended that cooperative societies should sustain guidance in the selection of marketing channels for the marketing of agricultural produce of members, as well as continue to increase market access for members.

Keywords: Assessment, Agricultural, Societies, Cooperative, marketing, agriculture, produce, roles

1.0 Introduction

Agriculture is still playing a very crucial role in the economic development of Nigeria. Most Nigerians dwell in rural areas, where the bulk of the population resides and

engage in agricultural activities "(Ehui and Tsigas, 2014; Osabohien et al., 2018). The agricultural sector accounts for over 75% of the food needs of the entire populace (Olayemi et al., 2011). The sector is also the main source of raw materials for agro-industries and foreign exchange earnings '"(Adeniyi and Ogunsola, 2014; Obilor, 2013). Agriculture contributes to food security because it is the sole source of food availability in Nigeria (Asghar and Salman, 2018; Fomyol and Tata, 2019). The sector is at a subsistent level (Odetola and Etumnu, 2013) and classified as a rural occupation (Abah et al., 2021), which is dominated by resource-poor farmers "(Zuma et al., 2023). Nevertheless, agriculture accounts for about 60% of Nigeria's Gross Domestic Product and 70% of Nigeria's export (Nwogwugwu et al., 2023). Nwogwugwu et al. (2023) also affirmed that agriculture facilitates industrial development in Nigeria.

The translation of agricultural production to economic development falls within the purview of marketing functions. Production is complete and impactful only through the distributive functions of marketing. The marketing system also provides the necessary infrastructure, marketing mix and channels that facilitate the exchange systems of goods and services as well as the associative wages and commissions (Ndidi and Isaac, 2015; Ogutu et al., 2020; Salman et al., 2017). Agricultural marketing is better coordinated through the network of cooperative societies. 'James and Joshua (2014) asserted that cooperative movements among farmers are instrumental to agricultural transformation and boosting productivity in the sector as well as playing remarkable roles towards the growth and development of the national economy.

In Africa, agricultural co-operatives had been established and promoted as part of promoting the agriculture sector. The categories of agricultural co-operatives are based on various activities each performs, such as the supply of agricultural inputs, joint

production, and agricultural marketing. The input supply includes the distribution of seeds and fertilizers to farmers. The co-operatives in joint agricultural production assume that members operate the cooperative on jointly owned agricultural farms. Also, there are collective agricultural marketing of producer crops, where members mobilize resources for the transformation, packaging, distribution, and marketing of one or more agricultural products (Anania and Rwekaza, 2016).

Cooperative societies constitute a veritable platform for enabling agriculture to facilitate economic development. The societies are involved in various aspects of agricultural practices, ranging from inputs, production, processing, to marketing. The main objective of establishing a co-operative marketing is to encourage intelligent and orderly marketing of agricultural produce, to eliminate speculation and waste, to make distribution of agricultural produce between producer and consumer as direct as can be efficiently done, and to stabilize the marketing of agricultural production. Co-operative marketing is an alternative to private dealers, with the main objective of securing a large share of profits for the producer. Cooperative marketing is thus to store, transport, and process farm goods in the form, at the time, and at the place that consumers desire (Verma and Jheeba, 2023).

In order to market the agricultural produce of members, cooperatives play a crucial role in the intelligent and orderly marketing of agricultural produce. For instance, a key function of cooperative societies is market correction. Cooperatives help correct market failures by ensuring fair prices for farmers' produce. Whenever prices are too low or buyers have left the market, cooperatives step in to address these gaps (United States Department for Agriculture and Rural Development (USDA), 2000). Another major function is service provision, by which cooperative societies provide services that might

not be commonly available. These services include marketing, grading, and market information, which help farmers obtain better prices for their produce (Hoffman, 2005). Furthermore, through market power, cooperative societies enable farmers to gain negotiating power against larger buyers and thus allow farmers to collectively bargain and have a stronger position in the market (United States Department for Agriculture and Rural Development (USDA), 2000). Cooperatives help in the spreading of risk and marketing costs among participants. This collective approach allows them to operate more efficiently and meet buyers' demands (United States Department for Agriculture and Rural Development (USDA), 2000). Towards attaining processing efficiency, cooperatives take advantage of assembling enough volume of produce that is often required by processing plant operators (Hoffman, 2005).

These roles culminate in critical performance indicators of the roles of cooperatives in the marketing of the agricultural produce of members. Examples of these performance indicators are technical and allocative efficiency of the market; the degree of market integration; price and margin stability; and accuracy and adequacy of information flows (Olowa, 2015), among others. This study sets out to evaluate the role of cooperatives in the marketing of agricultural produce of members within the context of critical success factors for the sustainability of the agricultural system and economic development.

Cooperatives have the capacity to sell large quantities of produce to processing industries and factories. The societies can also access exporters of agricultural produce. Using available infrastructure like storage facilities, cooperatives can store produce and sell at the time that the price of the produce is reasonably high. However, the analysis of this marketing approach is yet to be seen in empirical literature. Although cooperatives

are considered an appropriate tool of rural development, they are facing critical problems, which restrain them from playing their positive role. Some of the constraints of cooperatives are: low institutional capacity, inadequate qualified personnel, low entrepreneurship skill, lack of financial resources, lack of market information, poor members' participation in the different activities such as financing the cooperative, patronizing the business activities of the cooperatives, controlling and supporting it (Dawit, 2005). Moreover, the prices of agricultural inputs are increasing from year to year, and farmers are complaining about it. These multifaceted problems make it very difficult for the overall activities of the cooperatives in general and the agricultural input and output marketing in particular. The aforementioned problems place the farmers as usually price takers due to the fact that they have poor marketing skills and limited bargaining power.

Mohamed, (2004) examined the role of agricultural co-operatives in agricultural development in Menoufiya governorate in Egypt and found out that 73% of the agricultural co-operatives had insufficient budget for achieving their aims, 71.2% had low capacity of mobilizing resources, 48.5% had low ability of employing their resources efficiently, 87.9% had limited contributions to agricultural development, while 69.7% had low organizational effectiveness in agricultural development. Maren (2009) studied farmers' organizations as a tool to improve small-scale farmers' welfare in Mozambique and revealed that membership among small-scale farmers had positive effects on agricultural profit maximization, while the effect of co-operatives on the value of plant production was not significant.

However, there is no available study on the assessment of the role of cooperative societies

in the marketing of the agricultural produce of members in recent times. In addition, no study in Nigeria has evaluated the critical success factors for cooperatives in the marketing of the agricultural produce of members.

2.0 Objectives of the Study

This study seeks to assess the role of cooperative societies in the marketing of agricultural produce of members in Nigeria's South East region.

The specific objectives were to:

i. Describe the socioeconomic characteristics of members of cooperative societies in the zone
ii. ascertain the roles of cooperatives in the marketing of the agricultural produce of members
iii. determine the performance of cooperative societies in the marketing of the agricultural produce of members.

3.0 Methodology

The study area is the South-East region. It is one of the six geopolitical zones of Nigeria, representing both a geographic and political region of the country's inland southeast. It comprises five states – Abia, Anambra, Ebonyi, Enugu, and Imo. The zone is bounded by the River Niger on the west, the riverine Niger Delta on the south, the flat North Central to the north, and the Cross River on the east. It is divided between the Cross–Niger transition forests ecoregions in the south and the Guinean forest–savanna mosaic in the drier north. Culturally, the vast majority of the zone falls within Igboland–the indigenous cultural homeland of the Igbo people, a group which makes up the largest ethnic percentage of the southeastern population(Onah et al., 2024).

Although the South East is the smallest geopolitical zone, it contributes greatly to the Nigerian economy due to oil and natural gas reserves, along with a growing industrialized economy. The region has a population of about 36 million people, around 18% of the total population of the country. Aba and Enugu are the most populous cities in the South East as well as the tenth and fourteenth most populous cities in Nigeria. Other large southeastern cities include (in order by population) Onitsha, Umuahia, Owerri, Nnewi, Awka, and Abakaliki.

The South East is predominantly Igbo ethnically and linguistically. Various Igbo subgroups and their dialects in South East are: Owerri people, Mbaise people, Nkanu people, Ngwa people, Omambala people, Nsukka people, Enuani people, Ezza people, Afikpo people, Arochukwu people, Oguta people, Aguata/Orumba, Okigwe people, Egbema people, Izzi people, Effium people, Idemili people, Agbaja people, Ikwo people, Ndoki people, Abriba people, Ohafia people, Orlu people, Ohaji people, Ohaozara people, Anaedo people, and many others.

The zone has 85 local government areas with a total population of over twenty million people. The zone has about ten large commercial cities. Apart from agriculture, which is the major economic activity, the zone is also known for commercial and trading activities with small and medium indigenous industries that are manufacturing goods and services. The main agricultural products in the zone are yams, cassava, rice, and cocoyams. The zone has solid minerals and natural resources such as crude oil, natural gas, bauxite, iron ore, sandstone, lignite, clay, coal, tin, and columbite.

The population for the study comprised members of agricultural cooperative societies in the southeast region of Nigeria. A multistage sampling technique was

adopted for the selection of respondents. In the first stage, three states, Anambra, Ebonyi, and Enugu, were randomly selected from the five states in the region. In the second stage, two agricultural zones were purposively selected from each state because of the high concentration of farmers' cooperative societies. This gave a total of six agricultural zones. These agricultural zones were Anambra and Onitsha (Anambra State), Ebonyi Central and Ebonyi South (Ebonyi State), and Awgu and Nsukka (Enugu State).

In the third stage, two Local Government Areas (LGAs) were randomly selected from each of the selected agricultural zones, making twelve LGAs. These local government areas were Anambra East and Ayamelum from Anambra; Ihiala and Ogbaru from Onisha; Ishielu and Ikwo from Ebonyi Central; Afikpo South and Ohaozara from Ebonyi South; Awgu and Aninri from Awgu and Igbo-entity and Uzo-want from Nsukka agricultural zones. Based on the list of Farmers' Cooperative Societies (FCSs) in each LGA, which will be supplied by the LGA cooperative officer, the Taro Yamene formula was applied to determine the sample size. Bourley's proportional allocation was then used to allocate the sample to the appropriate sectors. The models for Taro Yamene and Bourley allocation formula are shown in Equations (1) and (2), while the outcomes are presented in Table 1.

Taro Yamane's formula:

$n = N/ 1+ N (e)^2$ ..... (1)

Where:

n = the required sample size from the population under study

N = the whole population that is under study

e = the precision or sampling error 0.05

$$n_h = \frac{N_h}{N} \times n \quad \text{..... (2)}$$

Where:

n_h = sample size for the stratum *h*

N_h = population size for the stratum *h*

Data Collection and Analysis

Primary data were collected for the study. Enumerators were trained to assist in the data collection process. Local Government Cooperative Officers were recruited to assist in the identification of the respondents. Data for the study were analysed using descriptive and inferential statistics.

Spearman's ranked correlation analysis

Spearman's ranked correlation analysis was used to test hypothesis one for the study. The specification is in Equation (3):

$$\rho = 1 - \frac{6\Sigma d^2}{N(N^2-1)} \quad (3)$$

Where:

$\rho = Spearman's\ correlation\ coefficient$

d = difference in rank between scores

N = population/sample

4.0 Results and Discussion

4.1 Socioeconomic Characteristics of Members of Cooperative Societies

Table 1 shows that the age of most (50.88%) of the respondents ranged from 35 to 44 years. This is the active working population when Nigerian farmers are at their prime. This means that the respondents are mature enough to explore and compare alternative means of agricultural produce marketing. Table 1 also shows that the majority (75.97%) of the respondents were males. Males have more time for social activities than females.

As household heads, they are responsible for the major decisions that lead to the welfare of their families. Hence, they are found to dominate even in cooperatives because of the potential of the cooperatives for economic transformation.

The result also shows majority (76.68%) of the respondents were married. Marriage provides the moral and psychological stability that is required for effective participation in social organizations. It is an indicator of maturity by the larger society as it is often used a criterion for assigning responsibilities. In the farming setting, marriage galvanizes the independent decision-making unit, the household that control production. The household size of majority (72.90%) of majority of the respondents ranged between five and eight. Members of the farm household of a farmer contribute to the labour stock that is required for the many operations among smallholder farmers. This substitutes for hired labour, which some resource-poor farmers are unable to pay for.

Further, the results show that the dominant (49.82%) years of farming among the respondents ranged from eight to 14. This period is long enough for the respondents to accurately assess the role of cooperatives in the marketing of farm produce for members. Also, the dominant (50.88%) years of cooperative society membership ranged from one to seven years. This means that the respondents have interfaced the cooperative society system for some years and can evaluate the role of the system in the marketing of produce.

Table 1: Socioeconomic Characteristics of Members of Cooperative Societies (n=283)

Variables	Frequency	Percentage
Age of farmer (years)		
25 to 34	35	12.37
35 to 44	144	50.88
45 to 54	77	27.21
55 and above	27	9.54
Sex		
Male	215	75.97
Female	68	24.03
Marital status		
Single	66	23.32
Married	217	76.68
Years of farming (years)		
1 – 7	113	39.93
8 – 14	141	49.82
15 – 21	18	6.36
22 and above	11	3.89
Household size		
1 to 4	48	16.96
5 to 8	206	72.79
9 to 12	27	9.54
13 and above	2	0.71
Years of membership (years)		
1 – 7	144	50.88
8 – 14	119	42.05
15 – 21	10	3.53
22 and above	10	3.53

Source: Field Survey (2024)

4.2 Roles of Cooperatives in the Marketing of Agricultural Produce

The analysis of the roles of cooperative societies in the marketing of agricultural produce is presented in Table 2. It was found that agricultural cooperatives were vital players in addressing the myriad challenges faced by smallholder farmers, particularly in developing economies. These challenges include market access, price volatility, limited bargaining power, high transaction costs, and postharvest losses. By organizing farmers into collective units, cooperatives enhance the marketability of agricultural produce,

reduce transaction costs, and increase farmers' negotiating power. This finding elaborates on the roles of cooperatives in the marketing of agricultural produce, focusing on key areas identified in the study: marketing channel selection, storage, and sorting and grading. These roles not only support farmers in accessing higher-value markets but also influence the sustainability of their income.

The study highlights that cooperative societies play a significant role in marketing channel selection (π=3.82), storage (π=3.80), and a relatively lesser role in sorting and grading (rated 2.33). The role of cooperatives in selecting the appropriate marketing channels is crucial for maximizing the returns of their members. Agricultural cooperatives typically identify and connect farmers to markets where they can sell their produce at competitive prices. By pooling the produce of many farmers, cooperatives are able to access larger and more profitable markets that individual farmers could not penetrate on their own. This is particularly important in the context of smallholder farmers who may be geographically isolated and lack access to high-value markets.

According to Benedict et al. (2014), cooperatives allow farmers to aggregate their produce, which significantly lowers transaction costs and enhances bargaining power. In Kenya, cooperatives in the dairy sector, such as the Kenya Cooperative Creameries (KCC), have successfully connected small-scale dairy farmers to domestic and international markets, improving both the profitability and sustainability of their operations (Mwangi et al., 2016).

Cooperatives also help mitigate the risks associated with market uncertainty by diversifying the channels through which members' produce is sold. For example, cooperatives may market produce directly to wholesalers, processors, or even engage in export markets, depending on the type of produce. Dorward et al. (2018) highlight that

cooperatives help buffer farmers from fluctuating prices by providing a stable marketing platform, which improves income stability.

The role of cooperatives in marketing channel selection is key to ensuring that smallholder farmers receive fair prices for their produce. By fostering better market linkages and promoting direct sales, cooperatives can empower farmers to bypass exploitative middlemen, reduce the asymmetry of market information, and negotiate better terms with buyers. The enhanced market access also contributes to improved food security by connecting farmers to stable demand.

From Table 2, it was observed that another pivotal role that cooperatives play in agricultural marketing is providing storage facilities. The study reveals that cooperatives are deeply involved in organizing storage systems, which helps mitigate the risks associated with postharvest losses. Postharvest loss is a significant challenge in many developing countries, particularly for perishable crops such as fruits, vegetables, and dairy products. Storage systems allow farmers to hold their produce for longer periods until market conditions are more favorable, helping to reduce supply-side pressures and price fluctuations.

Sserunkuuma et al. (2017) stated that cooperatives in Sub-Saharan Africa often provide centralized storage facilities that reduce losses, improve product quality, and increase farmers' negotiating power. In Uganda, cooperatives that manage storage warehouses have seen a significant reduction in postharvest losses, especially for crops like maize and beans, by providing a controlled environment where crops are kept safe from spoilage and pests (Mulema *et al*., 2019).

Storage also plays a critical role in reducing market volatility. By storing produce during periods of glut and releasing it when supply is low, cooperatives can smooth out price

fluctuations, allowing farmers to sell their products at more favorable prices. Okello et al. (2016) found that cooperatives in East Africa that have invested in modern storage facilities have been able to secure better prices for members by reducing the oversupply that often depresses market prices during harvest periods.

Cooperatives that provide storage facilities enable farmers to avoid the "rush to sell" during peak harvest seasons, thereby reducing the downward pressure on prices. This practice not only minimizes postharvest losses but also increases the bargaining power of farmers in the marketplace. In addition, better storage contributes to improving the shelf-life and quality of produce, which can open doors to more lucrative markets, including export and processed goods markets.

Despite its importance, the role of cooperatives in sorting and grading agricultural produce is rated relatively low (2.33) in the study. Sorting and grading are crucial steps in the marketing process that enable produce to be classified according to quality, size, and type. This categorization helps attract better prices from buyers, as quality products are more likely to command premium prices in competitive markets.
Proper sorting and grading can also reduce the risk of contamination or the spread of diseases. By sorting out infected or low-quality produce, cooperatives can maintain the integrity of the entire batch, ensuring that only marketable goods are sold. According to Harris et al. (2017), sorting and grading improve the quality of produce, which in turn enhances its competitiveness in both local and international markets. In Uganda, cooperatives in the coffee sector, for example, have implemented grading systems that allow them to access higher-value markets by meeting international standards for specialty coffee (Aliguma *et al*., 2018).

However, Sullivan et al. (2015) point out that many cooperatives struggle to

implement effective sorting and grading systems due to limited resources, lack of technical know-how, and insufficient infrastructure. This limits their ability to add value to the products of their members and, as a result, prevents farmers from accessing premium markets that demand high-quality standards.

The relatively low emphasis on sorting and grading suggests that cooperatives could greatly improve their marketing effectiveness by investing in these practices. Mulema et al. (2019) stated that training for both cooperative members and staff on grading practices, as well as the establishment of quality control systems, could significantly improve the value of the produce and enhance the bargaining power of farmers. Moreover, by adopting modern sorting and grading technologies, cooperatives can ensure that their members' produce meet the growing demand for high-quality, certified goods in niche markets like organic or fair-trade markets.

Table 2: Roles of Cooperatives in Marketing of Agricultural Produce (n = 283)

S/No	Variables	Mean	Standard deviation	Coefficient of variation
1	Produce aggregation and assembling	3.79*	0.98	0.26
2	Storage	3.80*	0.98	0.26
3	Financing	3.41*	0.56	0.16
4	Marketing channel selection	3.82*	0.98	0.26
5	Sales promotion	3.19*	0.98	0.31
6	Transportation	3.58*	0.82	0.23
7	Branding	3.38*	0.55	0.16
8	Packaging	3.00*	0.64	0.21
9	Hedging	3.57*	0.87	0.24
10	Price determination	3.78*	0.99	0.26
11	Sorting and grading	2.33	1.69	0.72
12	Marketing risk management	3.19*	0.98	0.31

* Score is at least 3, the cutoff point

Source: Field Survey (2024).

4.3 Relationship between the Role and Performance of Cooperatives in the Marketing of Agricultural Produce of Members.

The study employs Spearman's Rank Correlation Coefficient to test the relationship between the role of cooperative societies and their performance in the marketing of agricultural produce as shown in Table 3. The results, indicating a positive and statistically significant correlation at the 1% level, provide valuable insight into how the activities and functions carried out by cooperatives contribute directly to their overall performance. This finding suggests that the more effectively cooperatives perform their roles, the better their overall success in the agricultural marketing space. In this section, we will expand on these results, relate them to existing literature, and discuss the implications for both theory and practice.

A statistically significant result at the 1% level means that the likelihood of this finding occurring by random chance is less than 1%, providing strong evidence for the relationship between cooperative roles and performance. As the roles of cooperatives, such as facilitating market access, ensuring price stabilization, providing storage facilities, and increasing the bargaining power of smallholder farmers, become more pronounced, the cooperative's ability to effectively market agricultural produce improves.

The study's finding that intensification of cooperative roles leads to increased performance has practical implications for the management and strategic development of agricultural cooperatives. The positive relationship suggests that when cooperatives invest more in their core functions, such as improving market access, enhancing communication, providing storage and logistics, and engaging in collective bargaining,

their ability to meet the needs of their members and perform well in the agricultural market is enhanced.

For example, cooperative activities like market linkage, price negotiations, and warehousing have been shown to significantly improve the financial performance of agricultural cooperatives. Harris et al. (2017) confirm that improved market access and collective marketing efforts are strongly correlated with better economic outcomes for farmers. When cooperatives perform these roles well, they secure higher prices for members' products, reduce postharvest losses, and help stabilize income, leading to improved performance outcomes. The result indicates that the more comprehensive the role of the cooperative, the better its market performance. Mulema et al. (2019) discuss how cooperatives that facilitate collective bargaining or bulk buying and selling are able to access larger markets, negotiate better terms, and reduce transaction costs, all of which contribute to better performance. Furthermore, Dorward et al. (2018) suggest that cooperatives that focus on providing extension services to members, such as agricultural training and technology dissemination, tend to improve the productivity and marketability of their members' produce, thereby enhancing their overall performance.

Table 3: Relationship between the Role and Performance of Cooperatives in the Marketing of Agricultural Produce of Members

Parameters	**Statistics**
Number of observations	283
Spearman's rho	0.6076
Prob. > |t|	0.0000

Source: Author's Computation, 2024

5.0 Conclusion and Recommendations

5.1 Conclusion

From the findings of the study, it was concluded that cooperative societies play very important roles in the marketing of the agricultural produce of members. Their performance assessment was rated high. An increase in the roles of cooperative societies would lead to an increase in the performance of the marketing roles of the societies.

5.2 Recommendations

The following recommendations are considered apt:

i. Marketing channels selection was ranked highest as an indicator of the role of cooperative societies. Hence, cooperative societies should provide guidance in the selection of the marketing channel for the marketing of the agricultural produce of members. This will ensure cost minimization, maximum profit, and complete offtake of supplied produce.

ii. The major performance indicator for cooperatives in the marketing of agricultural produce of members was ease of market access. Consequently, cooperative societies should continue to increase market access for members. This will guarantee the timely sale of produce.

iii. The leadership of the cooperative societies should ensure that the production process is adequately transparent. This will instill confidence in the members and sustain the system of facilitating the marketing of produce for members; and

iv. Commitment factor had the highest rank among other composite critical success factors. Consequently, the leadership of cooperative societies should utilize the components of commitment factors to sustain the performance of the societies in the marketing of the agricultural produce of members.

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