



Impact of Agricultural Cooperative Societies on Farmers Productivity and Rural Transformation in Etche Local Government Area of Rivers State

¹Nlebem B.S and ²Raji, Wale Isaiah
Vocational & Technology Education
Faculty of Education, Rivers State University
Nkpolu-Oroworukwo
Port Harcourt, Nigeria

E-mail: ¹nlebembernard@yahoo.com
²walex4real100@gmail.com

Abstract

The study examined the impact of agricultural cooperatives societies on farmer's productivity and rural transformation in Etche Local Government Area of Rivers State. The population of the study was twenty (20) agricultural cooperative societies' members and thirty (30) non-members of agricultural cooperatives society given a total of (50) randomly selected from registered farmers in Etche Local Government Area. The instrument used for data collection was a questionnaire which elicited information based on the four objectives of the study. The questionnaire was titled 'Impact of Agricultural Cooperatives Societies on Farmers Productivity and Rural Transformation Questionnaire (IACSPRTQ). The instrument was structured in a four point rating scale of strongly agree (SA-4), Agree (A-3), Disagree (D-2) and strongly disagree (SD-1). The instrument was validated by two experts. The reliability of the instrument was established using test-retest method which yielded reliability coefficient of 0.65. The research questions were analyzed using mean and standard deviation, while the hypotheses were tested by the use of z-test statistics. Findings of the study showed that agricultural cooperatives societies enhances farmers' income and output; enhances the sales and marketing of agricultural product, facilitates rural transformation. The study recommended among others that government should encouraged farmers to associate with agricultural cooperative societies so as to benefit from government subsidies.

Key words; Agricultural cooperative societies, members, non-members, productivity and rural transformation

Introduction

It is a historical fact that agriculture had been the medium of sustenance for people majorly in the rural areas, where the majority of the world's poor and hungry people live. In the post independent years in Nigeria, agriculture was the major sector which contributes about 80 percent to Gross Domestic Product (GDP) but unfortunately abandoned following oil discovery in 1958 and boom in the 1970's (Nlebem & Raji 2019). In order to redirect the situation, multitudes of programmes were initiated which were not able to meet the objective for which they were designed to achieve (Toluwase & Apata, 2013); Due to the struggle to regain agricultural sustainability, agricultural cooperative banks, agricultural banks and other development programmes were initiated and enforced.

Agricultural cooperative societies according to Nlebem (2018), are the only form of business organization that addresses fully all the economic, democratic, and social dimensions of poverty reduction simultaneously. The International Cooperative Alliance Mohammed and Lee (2014) define a cooperative as an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. Farmers need to get organized and cooperatives are an ideal, member-owned, business organization as it offers the institutional framework through which members control both production and marketing activities (Davis 2008).

Agricultural cooperative societies help smallholder farmers to overcome various problems that constrain them from expanding, commercialization and economic buoyancy in farming as a business (Woldu, Tadesse & Waller 2013). Taiwo, Agbasi, Lawal and Okafor (2015) jointly noted that "Nigeria agriculture is characterized by very large number of small holders scattered over vast expanse of land throughout the country, cooperative organizations offer the best machinery for reaching the masses of the small-scale farmers at the grassroots". They further stated that as at then, nearly all the cooperative societies in Nigeria are designed to meet the needs of agriculture. Even the four per cent, which constitute non-agricultural cooperative societies have great relevance for agriculture and use agricultural products and by-products.

According to International Labour Organization (ILO 2001), “the role of cooperatives in development is threefold: economic, social and political. The economic role involves provision of opportunities for improved incomes to members thereby help to alleviate poverty. Not only that, they enhance access to credit, procurement and storage, distribution of input and marketing of products. Socially, agricultural cooperatives societies are crucial in extenuating risks and proffer solutions to social problems by:

- improving farmers living and working conditions;
- offering production, health, funeral and life insurance and protecting consumers from adulteration of commodities;
- Taking other social actions such as care for the aged, children and handicapped, and the creation of employment for socially disadvantaged population.

Politically, agricultural cooperative societies defend the interests of their members and the public in the government. One crucial point in maintaining this impressive agricultural growth is organizing farmers in groups and strengthening their horizontal cooperation. This allows, among other things, to achieve economies of scale that are a prerequisite for entering value chains, implementing quality improvements in a cost-effective manner, introducing quality management practices, adding processing steps through small investments in technology, obtaining certification of products through group certification schemes, and marketing the products (World Bank, 2008)

Oladeji and Oyesola (2000) stated that in consideration of the impression of cooperative society in agricultural production, the advantages of belonging to agricultural cooperatives society abound in diverse areas. Farmers in the developed countries, had been consistently stimulated towards associating themselves into cooperate society so as to ease government effort of reaching farmers with benefits especially the rural farmers. According to Chambo (2009), agricultural cooperative societies create the ability for the supply of required agricultural inputs so that production of commodities is done timely to enhance productivity. There are agricultural inputs that may be difficult to procure by subsistence farmers, the essence of cooperative society abounds in not only making the inputs available

but also subsidize the cost for members. In addition, Mohammed and Lee, (2014) assert that agricultural cooperatives societies is an essential tool in ensuring needed assistant for peasant farmers and marginalized groups by creating sustainable rural employment. Cooperatives ensure that farmers are consistent in their agricultural produce to sustain their living thereby providing self-employment for the rural people year in year out. In the formation of cooperative societies, certainly there would be delegates who will be required to represent the society at the state and federal level. By this, rural farmers are being inclined with state and federal affairs as it concerns rural agriculture.

Chambo, (2011) had noted that producer cooperatives societies offer smallholder farmers market opportunities, and provide them with services such as better training in natural resource management, and better access to information, technologies, innovations and extension services. Based on the facts reviewed, it is worthy to conclude that the benefits cooperative societies offer for participants is magnanimous compared to farmers' contribution.

It is an unquestionable historical facts that agriculture has been the medium of sustenance for people majorly in the rural areas, where the majority of the world's poor and hungry people live. Agricultural cooperatives societies help to provide assistant for peasant farmers and marginalized groups by creating sustainable rural employment (Mohammed & Lee, 2014). Agricultural cooperatives societies are considered as one of the major economic and social organizations which is highly instrumental in the transformation of rural communities. Nnadozie, Oyediran, Njouku and Okoli (2015) assert that agricultural cooperative societies does not only help the farmers to obtain latest skills to tap from the available environmental resources but also help them to have access to production inputs such as fertilizers, seed, chemical substances, etc. which enhance their production capacities.

Through agricultural cooperatives societies in the communities, farmers who are members would be involved in decision making process, identification of societal needs, input service delivery, farmers' education, financing, contracting, warehousing, processing, packaging and advertising of farm products (Nnadozie, *et al.*, 2015). In these diverse agricultural involvements, rural farmers are more enlighten which will reflect rural transformation.

Various empirical studies have shown that agricultural cooperative societies have a tremendous impact on rural transformation. Davis (2008) wrote that “cooperative is one of the 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“ . The studies by Yang and Liu (2012), Zheng Wang & Song (2011), and Ito, Bao & Su (2012) revealed that cooperative member in China realized higher agricultural income or crop income than non-members. Using household survey data collected from Ethiopia, Tilahun, Maertens, Deckers, Muys, and Mathijs (2016) found that membership in frankincense cooperative firms had a positive and statistically significant impact on rural income, while Chagwiza, Muradian & Ruben (2016) reported a positive and significant impact of agricultural cooperative societies membership on dairy farmers’ income. Recently, Mojo, Fischer & Degef (2017) reported that membership in agricultural cooperatives positively affects household income. These chronicles of empirical studies clearly justifies the fact that agricultural cooperative societies had highly impacted on both rural transformations and farmers’ productivity.

Statement of the Problem

Rural areas in Nigeria provide more than 70% of the country’s cultivable land. This amount to the reason small scale farming (SSF) becomes prominent in the rural areas. However, rural areas are constrained with various problems such as poor roads network, poor infrastructural facilities, epileptic electricity supply, and poor health care among others that increasingly affect agricultural productivity.

Moreover rural farmers are also burdened with high cost of farm inputs, ineffective farming technique, poor crop varieties, inadequate infrastructure, difficulty in obtaining agricultural credits and insurance. Farmers being overwhelmed with these problems could lead to reduced productivity and this ugly situation may continue unless something is done. However, in order to ameliorate this trend agricultural agencies have placed much emphasis on cooperation among farmers to collectively overcome rising agricultural challenges. It is based on this that the study tends to examine the impact of agricultural cooperative societies

on farmers productivity and rural transformation in Etche Local Government Area of Rivers State.

Purpose of the Study

The major purpose of the study was to determine the impact of agricultural cooperatives societies on farmer's productivity and rural transformation in Etche Local Government Area of Rivers State. In specific terms, the study sought to;

- ascertain the impact of agricultural cooperatives societies on farmers income and output in Etche Local Government Area of Rivers State;
- ascertain the impact of agricultural cooperative societies on the sales and marketing of agricultural product in Etche Local Government Area of Rivers State.
- determine the roles played by members of agricultural cooperatives societies on the transformation of rural communities in Etche Local Government Area of Rivers State.

Research Questions

The following research questions guided the study;

- What are the impact of agricultural cooperatives societies on farmer's income and output in Etche Local Government Area of Rivers State?
- What are the impact of agricultural cooperatives societies on the sales and marketing of agricultural products in Etche Local Government Area of Rivers State?
- What are the impacts of agricultural cooperative societies on rural transformation in Etche Local Government Area of Rivers State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance in the study,

- There is no significant difference between the mean responses of agricultural cooperative societies members and non- members on the impact of agricultural cooperatives on farmers income and output in Etche Local Government Area of Rivers State.
- There is no significant difference between agricultural cooperative society's members and non- members on the impacts of agricultural cooperative societies on rural transformation in Etche Local Government Area of Rivers State

Methodology

The study adopted a descriptive survey research design; this design was used because the research sought to elicit opinions of the farmers on the research questions that were posed. The population of the study was 20 members of agricultural cooperative societies and 30 nonmembers of agricultural cooperative society's members from Etche Local Government Area of Rivers State. Purposive sampling technique was used to select the 20 farmers who are members of agricultural cooperatives societies and the 30 farmers who are non-members based on their small size as sample size. The instrument used for data collection was structured questionnaire titled "Impact of Agricultural Cooperative Societies on Farmers Productivity Questionnaire" (IACSFPQ) which was designed based on the research objectives. The questionnaire contained four sections designed in a four point rating scales of agreement. The face and content validity of the instrument was ascertained by two research experts in agricultural education in the department of vocational and technology education, Rivers State University. In order to test in internal consistency of the instrument, Cronbach alpha coefficient was used, the instrument then yielded a reliability coefficient of 0.812. The data collected with questionnaire was analyzed using mean and standard deviation for the research questions, and the hypotheses were tested with t-test statistical tool at 0.05 level of significance.

Result and Discussion

Research Question 1: What are the impact of agricultural cooperative societies on farmers' income and output in Etche Local Government Area of Rivers State?

Table 1: Impact of Agricultural Cooperatives Societies on Farmers' Income and output

S/N	Items	Cooperative members=20			Nonmembers=30		
		Mean	S.D	Remark	Mean	S.D	Remarks
1	Lower cost of production	3.32	1.00	Agreed	2.21	0.66	Rejected
2	Helps to improve peasant farmers performance	3.50	0.85	Agreed	3.34	0.96	Agreed
3	Increases farmers' financial resources	3.53	0.68	Agreed	2.32	0.67	Rejected
4	Facilitate adoption of modern farming technologies	3.42	0.69	Agreed	2.40	0.67	Rejected
5	Ease access to credit and finances	3.64	0.75	Agreed	3.18	0.59	Agreed
6	Ease access to professional advice	3.22	1.00	Agreed	3.00	0.86	Agreed
7	Enhance crop productivity	3.02	0.86	Agreed	2.21	0.78	Rejected
8	enhances profitability of farm investment	3.23	0.70	Agreed	3.43	0.93	Agreed
9	Enhance higher output prices	3.59	0.93	Agreed	2.45	0.88	Rejected
10	Encourage savings among members	3.32	0.68	Agreed	3.00	0.71	Agreed
Grand Mean & S.D		3.38	0.81		2.75	0.82	

Field Data, 2019.

Table 1 showed respondents' mean responses on the impact of agricultural cooperatives societies on farmers' income and output in Etche Local Government Area of Rivers State. Lower cost of production (3.32 & 2.21), helps to improve peasant farmers performance (3.50 & 3.34), increases farmers' financial resources (3.53 & 2.32), facilitate adoption of modern farming technologies (3.42 & 2.40), ease access to credit and finances (3.64 & 3.18), Ease access to professional advice (3.22 & 3.00), enhance crop productivity (3.02 &

2.21), enhances profitability of farm investment (3.23 & 3.13), enhance higher output per hectare (3.59 & 2.45), and encourage savings among members (3.32 & 3.00).

Research Question 2: What are the impact of agricultural cooperatives societies on the sales and marketing of agricultural products in Etche Local Government Area of Rivers State?

Table 2: Impact of Agricultural Cooperatives Societies on the Sales and Marketing of Agricultural Product

S/N	Items	Cooperative members = 20			Non-Cooperative members = 30		
		Mean	S.D	Remark	Mean	S.D	Remarks
1	Agricultural Cooperative helps in Development of favourable Sales and marketing policy	3.58	0.97	Agreed	2.27	0.84	Rejected
2	Ease access to goods Exportation	3.68	1.09	Agreed	2.32	0.82	Rejected
3	Participation of market Price policy	3.20	0.67	Agreed	3.08	0.68	Agreed
4	Influence market demand and supply	3.12	0.56	Agreed	3.66	0.91	Agreed
5	Improve product quality	3.31	0.77	Agreed	2.48	0.83	Rejected
6	Accurate grading and Classification of farm Product	2.56	0.98	Agreed	2.99	1.12	Agreed
7	Encourage packaging of Agricultural product	3.02	1.09	Agreed	2.40	0.90	Rejected
8	Enhance group processing	3.23	1.13	Agreed	3.03	0.78	Agreed
Grand Mean & S.D		3.09	0.91		3.14	0.91	

Field Data, 2019

Table 2 showed respondents' mean scores on the impact of agricultural cooperative societies on the sales and marketing of agricultural product in Etche Local Government Area of

Rivers State. Development of favourable sales and marketing policy (3.58 & 2.27), ease access to goods exportation (3.68 & 2.32), participation of market price policy (3.20 & 3.08), influence market demand and supply (3.12 & 2.66), improve product quality (3.31 & 2.48), accurate grading and classification of farm product (3.56 & 2.99), encourage packaging of agricultural product (3.02 & 2.40), and enhance group processing (3.23 & 3.03).

Research Question 3: What are the impacts of agricultural cooperative societies on rural transformation in Etche Local Government Area of Rivers State?

Table 3: Impacts of Agricultural Cooperative Societies on Rural Transformation.

S/N	Items Cooperative Societies	Cooperative Members = 20			Non-Cooperative Members = 30		
		Mean	S.D	Remark	Mean	S.D	Remarks
1	Helps in maintenance of farm roads for effective Farm activities	3.34	0.90	Agreed	2.97	0.70	Agreed
2	Enhance the intervention of Government in community Development	3.97	0.87	Agreed	3.06	1.02	Agreed
3	Helps in the construction of Basic amenities for farmers Use such as storage tanks	3.42	0.93	Agreed	2.23	0.76	Rejected
4	Establish day care centres	3.01	0.66	Agreed	2.40	0.84	Rejected
5	Improves the standard of Community town halls	3.32	0.88	Agreed	3.00	1.10	Agreed
6	Enhances the effective Utilization of community Resources	3.67	0.80	Agreed	2.01	0.75	Rejected
7	Reduces illiteracy level Among farmers	3.21	0.99	Agreed	2.40	0.84	Rejected
8	Enhances farmers production of cash crops	3.09	0.83	Agreed	2.23	0.76	Rejected
9	Enhances commercialization of farms	3.09	0.60	Agreed	3.01	0.80	Agreed

10	Creates a medium for Attraction and patronage	2.61	0.87	Agreed	3.00	0.98	Agreed
Grand Mean & S.D		3.27	0.83		2.66	0.86	
Field Data, 2019							

Table 3 showed respondents' mean scores on the impacts of agricultural cooperatives on rural transformation. helps in the maintenance of roads for effective farm activities (3.34 & 2.97), enhance the intervention of government in community development (3.97 & 3.06), helps in the construction of basic amenities for farmers use such as storage tanks (3.42 & 2.23), establish daycare centres for members children (3.01 & 2.40), improves the standard of community town halls (3.32 & 3.00), enhances the effective utilization of community resources (3.67 & 2.01), reduces illiteracy level among farmers (3.21 & 2.40), enhances farmers production of cash crops (3.09 & 2.23), enhances commercialization of farms (3.09 & 3.01), and creates a medium for attraction and patronage (3.61 & 3.00).

Hypothesis 1; There is no significance difference in the mean responses of members and nonmembers of agricultural cooperative societies on the impact of agricultural cooperatives on the income and output of farmers in Etche Local Government Area of Rivers State.

Table 4: Z-Test Analysis on the impact of agricultural cooperatives on the income and output of farmers

Group	Mean	S.D	N	Level of sig.	Z-Cal	Z-Critical	Decision
Members	3.38	0.81	20	0.05	2.672	2.01	Rejected
Non members	2.75	0.82	30				
Field Data, 2019.							

Table 4 above showed that z-calculated (2.67) was greater than z-critical (2.01). This mean that the hypothesis was rejected, there is significance difference, in the mean responses of members and nonmembers on the income and output of farmers in Etche Local Government of Rivers State.

Hypothesis 2: There is no significance difference in the mean responses of members and nonmembers of agricultural cooperative societies on the impacts of agricultural cooperative societies on rural transformation in Etche Local Government Area of Rivers State.

Table 5: Z-Test Analysis on the impacts of agricultural cooperative societies on rural transformation in Etche Local Government Area of Rivers State

Group	Mean	S.D	N	Level of sig.	Z-Cal	Z-Critical	Decision
Members	3.27	0.83	20	0.05	2.50	2.01	Rejected
Non-members	2.66	0.86	30				

Field Data, 2019.

Table 5 above showed the z-calculated (2.50) was greater than z-critical (2.01) at 0.05 level of significance. The null hypothesis is therefore rejected; this implies that there is a significance difference on roles played by members on transformation of rural communities in Etche Local Government Area.

Discussion of findings

Findings obtained as shown in table 1 revealed that agricultural cooperative societies have high impact on farmers' income and output. This is obvious as all the items presented were all agreed upon by members of agricultural cooperative societies and some by nonmembers. However on some nonmembers disagreed, this finding conforms to that of Chambo (2009) who observed that agricultural cooperative societies create the stability for the supply of required agricultural inputs so that production of commodities is done timely to enhance productivity. Also Yang and Liu (2012), Zheng *et al.* (2011), and Ito *et al.* (2012) in their various findings came to conclusion that agricultural cooperative societies rigorously contribute to farmers' income and farm productivity.

Also the study found that development of favourable sales and marketing policy, ease access to goods exportation, participation of market price policy, encourage packaging of agricultural product, enhance group processing among others are impacts of agricultural cooperatives on the sales and marketing of agricultural produce. This finding is in conformity with World Bank (2008) which observed among other things, cooperative aims at achieving economies of scale that are a prerequisite for entering value chains, implementing quality improvements in a cost-effective manner, introducing quality

management practices, adding processing steps through small investments in technology, obtaining certification of products through group certification schemes and marketing the products (World Bank, 2008). Through the agricultural cooperatives in the communities, farmers who are members would be involved in decision making process, identification of societal needs, input service delivery, farmers education financing, contracting, warehousing, processing packaging and advertising of farm products (Nnadozie, *et al.*, 2015)

Finally, the study also found that cooperative society is instrumental in the maintenance of roads for effective farm activities, enhance the intervention of government in community transformation, helps in the construction of basic amenities such as storage tanks for farmers use, creates sustainable income for members, enhances the effective utilization of community resources, reduces illiteracy level among farmers, among others. These findings are conformity with Tilahun, Maertens, Deckers, Muys, and Mathijs (2016) who found that membership in frankincense cooperative farms had a positive and statistically significant impact on rural farmers' income. Nnadozie, *et al.* (2015) indirectly stated that cooperative societies are a great tool for government intervention into the affairs of the rural communities. In other words, cooperative societies provoke the involvement of government in the development of rural communities so as to encourage farming activities

Conclusion

From the findings, the study concluded that agricultural cooperative society had positive

- impacts on farmers income and output in that it helps lower cost of production, helps to improve peasant farmers performance, increases farmers' financial resources, facilitate adoption of modern farming technologies, ease access to credit and finances and so on.
- on the sales and marketing of agricultural produce in that it enhance development of favourable sales and marketing policy, ease access to goods exportation, participation of market price policy, encourage packaging of agricultural product, enhance group processing among others.
- on rural transformation in such that it evokes the intervention of government in rural affairs, helps in the construction of basic amenities for farmers use, creates

sustainable income for members , enhances the effective utilization of community resources and may more.

Recommendations

Based on the findings the following recommendations were made;

- Government should encouraged farmers to associate with agricultural cooperative societies so as to benefit from government subsidies.
- Agricultural cooperatives societies should create awareness to rural farmers because majority of the rural farmers are unaware of these societies in their communities.

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