






ASSESSMENT OF THE OPERATIONAL PERFORMANCE OF FARMERS' COOPERATIVE SOCIETIES IN SOUTH EAST NIGERIA



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ABSTRACT

To uncover the constraints and entry points for improving the operational performance of farmers' cooperative societies in southeast Nigeria forms the motivation for this study. Farmers' cooperatives have enormous potential to support economic growth at the rural and regional levels, building on the spirit of teamwork that is already common among the rural people. A decent number of qualities differentiate cooperative associations from other different entities. These comprise open and voluntary enrollment. Cooperative social orders are available to all citizenry with common interests. This study analyzed responses from two hundred and forty respondents selected through a multi-stage sampling procedure. Frequency, mean, Likert scale and ordered logit regression model were used for the analysis. The perception of members of farmers' cooperative societies on their operational performance showed that the cooperatives in the area performed well in terms of members' access to training, participation during decision-making, voting during elections, and leaders' emergence through the democratic process. The ordered logit regression result of the socioeconomic factors to the operational performance of the farmers' cooperatives showed that membership strength, Age of the cooperatives, access to free input, access to training, and access to infrastructural facilities were statistically significant and positively related to farmers' cooperatives level of operational performance. Thus, the study recommends that Cooperative societies supply their members' goods and services for improved income and savings investment, improved productivity, and bargaining power through maximum utilization of economies of scale and cost and risk sharing.

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INTRODUCTION

Group organizations contribute significantly to economic growth and development by empowering poor people and creating jobs (Poppe et al., 2021). They facilitate financial inclusion and social protection, critical elements in reducing restiveness in society (Yamusa & Adefila, 2014). This is particularly important given the level of restiveness in Nigerian society. Farming and farmer organizations are even strategically more critical in this regard, especially in the area of financial inclusion, job creation, poverty reduction and social protection (Anigbogu et al., 2016)

The International Cooperative Alliance (ICA) defines a cooperative as an autonomous association of persons unified voluntarily to meet their everyday economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise (ICA, 2009). In this light, cooperative societies function based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In contrast, the cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others (ICA, 2009).

In particular, Farmers' Cooperative Societies (FCSs) provide a veritable platform to improve the living conditions

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of farmers through increased agricultural production and productivity in sub-Saharan Africa (SSA). According to Omotesho (2008), cooperative societies are the most effective vehicles for efficiently mobilizing production resources for accelerated rural development. They allow for the harnessing and pooling of millions of smallholder farmers' resources to enable them to enjoy the advantages of economies of scale (Onugu & Abdulahi, 2012). Farmers can realize scale economies in bulk acquisition and hence enter into more stable trade agreements with suppliers or processors by forming cooperatives (Afolami et al., 2012). Furthermore, Dimelu et al. (2014) noted that most government and non-governmental organizations, including donor agencies, encourage and promote the formation of cooperative societies as a prerequisite for farmers' access to agricultural support services.

However, managing cooperatives remains crucial for sustaining income generation and social security in communities (Masuku et al., 2016; Breitenbach & Brandao, 2021). Poor performance of cooperatives could be attributed to poor governance structure, membership cohesion and satisfaction, limited advocacy and communication skills, and financial constraints that make it impossible for cooperatives to function effectively and optimally to better their members' living conditions. Thus, there is an urgent need to assess the existing farmers' cooperative groups to provide the required tools and evidence for its improvement and policy in Nigeria. When fully sustained, the farmers' cooperative groups in Nigeria will provide a veritable platform for reducing poverty (Ige & Ojo, 2023), especially among rural poor farmers who are generally described as the poorest and most vulnerable segment of society. There is little empirical evidence on the operational performance of farmers' cooperative societies to make way for easy policy formulation. Most studies in this area have tended to ignore the organization's structure and state of governance, which will enhance such issues as a cohesive and optimal performance of the societies (Liu et al., 2023). This is particularly important to enhance the longevity and sustainability of cooperatives in Nigeria and reduce proliferation for political and state aid reasons. The study, therefore, evaluated the operational performance of the farmers' cooperative societies from the view and perspective of the members, as well as determine the socioeconomic factors affecting the operational performance of the farmers' cooperatives.

LITERATURE REVIEW

Contextualization of Operational Performance

The performance of FCS can be evaluated by different standards and with different perspectives. The choice of criteria for evaluating the performance of any organization, including farmers' cooperatives, is a contextual issue that depends mainly on the nature of the organization in question (Onwuchekwam, 1985); different authors have their claims on cooperative performance; Holmén (1994) describes how donors' expectations on cooperatives are unrealistic and how cooperatives often fail to address the development problems that donors want them to target. Consequently, Holmén argued that an evaluation of cooperative performance should start with discussing what cooperatives can and cannot do. It is argued that the members' expectations are vital to understanding the cooperative goals and that the criteria for evaluation should be formulated as "the extent to which a cooperative satisfies the basic interests that motivated the members to join the cooperative" (Onwuchekwam, 1985). Therefore, operational performance is contextualized in this study based on the activities of the FCSs geared towards realizing the goals and aspirations of the members (Jamro et al., 2021; Jabessa et al., 2023; Kebede et al., 2024).

Figure 1 presents a conceptual framework that suggests three essential vintage points for understanding a cooperative's operational performance.

- First is the level to which members are involved in cooperative meetings and gatherings
- Second is the level of participation of the members in decision-making as well as voting during elections
- Finally, the level at which the members contribute financially and use the cooperative as the avenue for transacting in terms of a collective purchase of inputs and sales of produce.

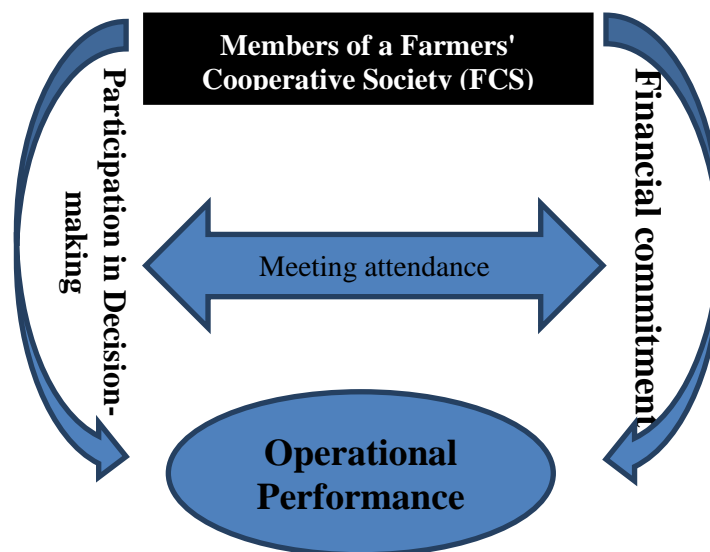


Figure 1. Criteria for accessing the operational performance of a cooperative society

The assumption is that cooperatives that fulfil these three criteria reflect the extent to which a cooperative satisfies the primary interests that motivate the members to join the cooperative. Kassali and Adeyemo (2007) found that cooperative societies operated in a competitive environment and engaged in development and poverty alleviation projects, while membership and the number of services provided to members were some of the determinants of cooperative performance. This study evaluated the performance of farmers' cooperatives through their operational performance ability as a yardstick to assess their contributions to members' welfare and the development of local communities as required by cooperative law.

A cooperative society promotes autonomy and a democratic process in its operations, where members are key players in setting policies and decision-making. This is a unique feature of cooperative society that determines the involvement or participation of members in cooperative operations, which is a significant factor in cooperative performance. The participation of members is essential for the success of any cooperative society, irrespective of type, as it helps achieve cooperative objectives. Therefore, farmers' cooperatives must achieve their objectives to be viewed as performing optimally; however, achieving these objectives depends on several factors.

The International Cooperative Alliance (ICA, 2009) states three core principles associated with cooperative operations: openness, democratic control and management of capital. Openness means cooperative members must ensure transparency in all establishments and operational practices. Subsequently, democratic control dismisses sole proprietorship in cooperative planning and decision-making processes and management of capital encourages proper cooperative budgeting and discourages wastefulness in cooperative funds during operational periods. The ICA also maintains that the implementation of these principles helps in ensuring that the cooperatives' pre-set objectives have a holistic benefit to all members of the cooperative, extinguishing one member's service and also considering meeting the needs of all members while maximizing cooperative profits (Department of Trade and Industry, 2012).

Based on the preceding, we portray operational performance as a reflection of the state of governance in cooperative operations. In that regard, cooperative societies are democratic institutions with all members having an equal vote; they meet and decide on all issues. Empirically, we determine operational performance based on the level of member participation in decision-making and voting during elections, the average member commitment in payment of dues, selling produce through cooperatives and buying products from cooperative society, and more broadly based on the perception of farmers' cooperative societies towards their operational performance.

MATERIALS AND METHODS

The study area was the East region of Nigeria, made up of five states: Abia, Anambra, Ebonyi, Enugu and Imo, with latitudes 4°30' and 7°00'N and longitudes 5°30' and 9°30'E (National Population Commission, 2006). The study population comprised registered farmers' cooperative societies in the region. 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 Onitsha; Ishielu and Ikwo from Ebonyi Central; Afikpo South and Ohaozara from Ebonyi South; Awgu and Aninri from Awgu and Igbo-entities and Uzo-want from Nsukka agricultural zones. A random sampling was used to select twenty farmers' cooperative societies from a list of Farmers' Cooperative Societies (FCSs) in each LGA supplied by the LGA cooperative officer. This study used two hundred and forty farmers' cooperative societies. Using a set of using-tested and validated questions, names collected data. Descriptive statistics and ordered logit models were used to analyze the data.

The instrument elicited information on the operational activities and performance of the cooperative society, such as cooperative meetings, training organized for members and committees, services rendered to members, members' participation/patronage, members' participation during decision-making, members' commitment in payment of dues, members' participation in voting during the election and how cooperative leaders emerged, was accessed on 4 point – Likert – type scale of Very High (VH) = 4, High (H) = 3, Low (L) = 2, Very Low (VL) = 1. Variables with mean scores < 2.5 were ranked "Not Performing, and mean scores of ≥ 2.5 were considered performing.

The ordered Logit model determined the factors affecting the farmers' cooperatives' operational performance. This is because the dependent variable (level of operational performance) is structured of an ordinal nature, derived through a Likert rating scale, which required the respondents to indicate the extent of the cooperative' operational performance under three categories: High = 3, medium and Low=1. For each of these Cooperative Societies, the number of indicators that passed the scale was counted as indicating performance level in such area (these formed the dependent variables of the ordered logit). The ordered logit model is given as

$y^* = \beta'x + \epsilon_i$, where y^* is the underlying latent variable that indexes the level of the cooperative's operational performance; β is a vector of parameters to be estimated while x is a vector of explanatory variables and ϵ is the stochastic error term. The latent variable exhibits itself in ordinal categories coded as 1, 2, 3, ..., j. The response of category j is thus observed when the underlying continuous response falls in the jth interval as:

$$\begin{aligned} y &= 1 \text{ if } 0 > y^* \leq \delta_1 \\ y &= 2 \text{ if } \delta_1 > y^* \leq \delta_2 \\ y &= 3 \text{ if } \delta_2 > y^* \leq \delta_3 \end{aligned}$$

$$= j \text{ if } \delta_{j-1} \leq y^*$$

This is a form of censoring, with the δ 's unknown parameters to be estimated with β

The hypothesized factors affecting the operational performance of the farmers' cooperatives include; X1 = the Amount of money saved by the cooperatives (N), X2 = the Membership strength of the cooperative (the number of people in a cooperative), X3 = the Age of the cooperative society (in years), X4 = the Total Shareholdings of the cooperative (Naira), X5 = Access to free input by the cooperative (access=1; no access = 0), X6 = Access to training by the cooperative (access=1; no access = 0), and X7 = Access to infrastructural facilities (access=1; no access = 0).

RESULTS

Operational performance of farmers' cooperative societies

We assessed the operational performance of the surveyed cooperative societies based on the following criteria: i) Percentage of the group members' attendance at meetings, ii) member participation in decision-making and voting. iii) average member commitment in payment of dues, selling produce through and buying products from society, iv) perception of farmers' cooperative societies towards their operational performance in the study area. This section presents the results based on the 240 surveyed cooperative societies.

Attendance of meetings by members

Meeting attendance reflects the level of integration and commitment by the members themselves. Table 1 shows the percentage attendance per meeting by members. It was shown that farmers' cooperatives with membership sizes ten and below had, on average, a 48.75% level of attendance. Cooperatives between the 11- 20, 21- 30, and 31 and above memberships had, on average, 26.67%, 19.17%, and 5.42% persons, respectively, attending meetings each time. This result does not indicate high participation of members in attendance to meetings.

Table 1. Average attendance at meetings

Cooperative size(membership)	Frequency	% meeting attendance
10	117	48.75
11-20	64	26.67
21-30	46	19.17
31 and above	13	5.42

Member participation in Decision making

Cooperative societies are democratic institutions. All members have an equal vote. They meet and make decisions together on all issues. Figure 2 shows the level of members' participation in the decision-making process and voting during the election of their executives.

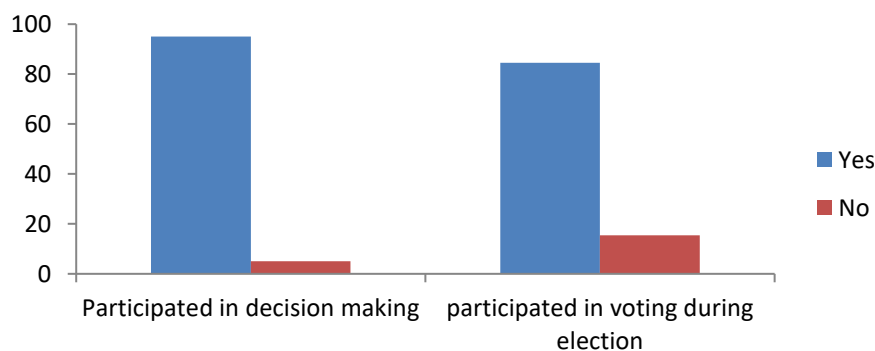


Figure 2. Member participation in decision-making and voting during elections

It showed that 95% and 84.58% of cooperatives indicated that their members participated in decision-making and voted during the election of their leaders, respectively. This indicates the depth of the democratic process, membership control, and ownership of cooperative affairs as required by cooperative law. Democracy is known to improve members' trust and commitment to cooperative operations.

Commitment to financial matters

The third criterion investigated was the level of commitment of cooperative membership to regular payment of dues in the cooperatives. Table 2 showed that those whose membership size was 10, 11-20, 21-30, and 31 and above had 7, 12, 20, and 33 persons, respectively, committed to payment of dues. The result in Table 2 suggests that members are not committed to

payment of dues as required. Table 2 further reveals members' commitment to buying and selling their products through cooperation (patronage).

Table 2. Member commitments in payment of dues, selling, and buying through FCS

Variable	Frequency	Mean	Percentage
Average members committed to paying dues/contributions by cooperative size.			
10	64	7	26.6
11-20	117	12	48.74
21-30	46	20	19.16
31 and above	13	33	5.41
Average members that sell their products through cooperatives by cooperative size			
10	64	4	26.6
11-20	117	4	48.74
21-30	46	8	19.16
31 and above	13	11	5.41
Average members that buy produce from cooperatives by cooperative size			
10	64	5	26.6
11-20	117	6	48.74
21-30	46	12	19.16
31 and above	13	25	5.41

Table 2 shows that cooperatives with a membership size of 10, 11-20, 21-30, and 31 and above have, on average, 4, 4, 8, and 11 persons, respectively, committed to selling their agricultural produce through their cooperative society. Also, cooperative membership sizes of 10, 11-20, 21-30, and 31 and above had, on average, 5, 6, 12, and 25 persons buying their products from their cooperatives. The result in Table 2 showed very poor patronage by members. However, interestingly, the result showed that the level of commitment to dues payment, as well as the level of sales and purchases through the cooperative societies, increases with an increase in the membership size of the cooperative societies.

Perception of cooperative societies towards their operational performance

The perception of farmers' cooperative societies regarding their operational performance was investigated using a 4-point Likert scale. The majority of the respondents indicated that their cooperatives did not perform their operational functions with average scores: members do not attend meetings (2.39), members are satisfied with the benefits they get from the cooperative (2.06), members are committed to payment of dues as required (2.13), members buy produce from the cooperative (2.37), and members sell their produce through the cooperative (2.14).

The result in Table 4 showed that members do not participate nor are committed to the critical operational activities of cooperatives, which are stated by cooperative principles to be among the factors determining good governance in cooperative operations. It showed that members needed to be more committed to meeting attendance. This result corroborates the findings by Garandi (2018), who reported a strong relationship between cooperative members' attendance at meetings and performance. His report showed that most respondents (72%) rated poor meeting attendance as the most challenging habit of members of cooperatives affecting their performance in the study area.

Dues payment by members could have been more encouraging. Most farmers' cooperative members join and remain in the societies to gain benefits from government agricultural assistance (Franks & Mc Gloin, 2007). This was also evident in the result of this study, as shown in Table 2, where the attitude of members' dues payment was deplorable. Members are not interested in committing their resources to the cooperative movement, which is against the cooperative principle of economic participation of members, perhaps due to a lack of trust in the leadership, lack of honesty, transparency and poor orientation of the cooperative group. These findings agree with Garandi's (2018) report.

Buying from and selling through cooperatives by members is evidence of the participation of members, which is crucial to the performance of the cooperative society and is pertinent to their goal attainment. Agrawal *et al.* (2002) noted that members' participation in cooperative activities, both in quantity and quality, can improve the perception and control members exert on the cooperative performance. They further stated that members' investment through their share capital, patronage, and other social activities could be at various levels, and it is expected that each of these will have differing effects on cooperative performance and control. In a related study, Olabisi and Petronilla (2011) reported that members' patronizing cooperative businesses positively correlates with cooperative performance realization.

The cooperatives that indicated to have performed their operational functions include members and committees having access to training (2.59), members participating during decision-making (2.70), members voting during meetings (3.27), and leaders emerging through election (2.62).

Table 3. Perception of Farmers' Cooperative Societies towards their Operational Performance in the Study Area (n=240)

S/N	Perception	VH x4	H x3	L x2	VL x1	Total	Mean	Remark
1	Members are committed to attending meetings	42(168)	58(174)	91(182)	49(49)	573	2.39	NP

2	Members are satisfied with the benefits they get from cooperative	34(136)	41(123)	73(144)	92(92)	495	2.06	NP
3	Members and committees have access to training	33(132)	90(270)	102(204)	15(15)	621	2.59	P
4	Members participate in decision-making	89(356)	40(120)	62(124)	49(49)	649	2.70	P
5	Members are committed to paying dues as required	29(116)	42(126)	102(204)	67(67)	513	2.13	NP
6	Members vote during elections	120(480)	81(243)	25(50)	14(14)	787	3.27	P
7	Members buy produce from a cooperative	24(96)	57(171)	142(284)	17(17)	568	2.37	NP
8	Members sell their produce through cooperative	20(80)	41(123)	132(264)	47(47)	514	2.14	NP
9	Leaders emerge through the democratic process(election)	59(224)	61(183)	101(202)	19(19)	628	2.62	P

Total number of cooperatives = 240; Total mean =22.27; Grand Mean = 2.47. Figures in parenthesis are nominal Likert values multiplied by their Frequencies/ Weight P = Performing; NP = Not Performing

Factors affecting the operational performance

The ordered logit regression result is presented in Table 4. The table shows the estimates of the parameters of ordered logit regression on the factors affecting the operational performance of farmers' cooperative societies. The explanatory power of the factors, as reflected by Pseudo R², was (57%). This shows that about 57% of the variation in the levels of operational performance is explained by the explanatory variables included in the model. The “/cut” parameters are the estimated thresholds μ_1, μ_2 , and μ_3 . These reflect the ancillary parameters used to estimate probabilities for the independent variable values (1, 2, and 3) with the following values: -1.360, 0.961, and 3.260. The model proves robust through a chi-square of 98.88 with 7 degrees of freedom. Prob> Chi² (0.0000) indicates that the variables included in the model are jointly statistically significant. The model seems to have behaved well in terms of consistency with *prior* expectations regarding the relationship between the dependent and explanatory variables.

The results showed that the cooperative societies' membership strength, the cooperative's Age, access to free input, access to training, and access to infrastructural facilities were statistically significant determinants of operational performance. Other significant variables include the Educational Status of the top manager (the top manager is usually referred to as the chairperson), whether the cooperative is government-established or non-government-established, the experience of the top manager, ownership of a corporate bank account, and support from NGOs.

The membership strength of the farmers' cooperative societies refers to the number of farmers in the cooperative society. This was an ordinal variable where cooperative societies with less than ten members were assigned the value 1, memberships between 11 to 20 were assigned 2, and memberships of 21-30 were assigned 3. In contrast, cooperatives with a membership of 31 and above were assigned 4. The result of the logit model showed that membership strength was positively and significantly related to their level of operational performance at a 10% probability level. In other words, population size was correlated to the operational performance of farmers' cooperatives. This implies that cooperative societies with many members perform better than those with fewer members. A positive relationship between membership strength and cooperative performance was also reported by Adefila (2012).

Table 4. Ordered logit Regression

	Coef.	Std. Err.	Z – Value
Amount of Savings	5.51e-07	4.29e-07	1.28
Membership strength	.0346	.017630	1.96 *
Age of the cooperative	.0503	.0302367	1.67*
Total Shareholding	2.67e-07	4.59e-07	0.58
Access to free input	2.086	.293102	7.12***
Access to training	.7254	.282490	2.57**
Access to infrastructural facilities	.6262	.198855	3.15***
Gender of the top manager	5.241	1.52415	1.24
Educational Status of the Top Manager	2.332	0.01101	1.95*
Age of the top manager	0.057	1.55214	1.001
Government established	.0054	0.54125	5.14***
Experience of the top manager	1.524	0.00024	3.59***
Ownership of Corporate bank account	0.071	0.10852	2.054**
Location (Urban = 1; Rural = 0)	2.521	2.21012	0.251
Supported by NGOs	0.217	0.52186	3.529***
Cut1 δ^1	-1.3609	.666112	
Cut2 δ^2	.961723.2609	.670212	
Cut3 δ^3		.686093	
Statistics:	240		
No. of observations =	98.88		

LR chi2(7)	=	0.0000
Prob> chi ²	=	0.57
Pseudo R ²	=	

Note: *, **, and *** indicate significant at 10%, 5%, and 1% respectively

The Age of the cooperative was captured as a continuous variable representing the number of years from the formation of the cooperative society. The result of the logistic regression shows that the Age of the cooperative society had a positive relationship with the level of operational performance of farmers' cooperative societies and was significant at the 10% level of probability, implying that the level of operational performance of cooperatives was dependent on the cooperative year of existence.

Access to training and free input had a positive and significant relationship with the level of operational performance of farmers' cooperative societies. While access to free input was significant at a 1% probability level, access to training by the farmers' cooperative societies was significant at a 5% probability level. This implies that cooperatives' operational performance level depended on cooperatives having access to free input and training from government or non-governmental organizations. Similarly, access to infrastructural facilities had a positive relationship with the level of operational performance of farmers' cooperative societies. It was significant at a 1% level of probability, implying that the level of operational performance of cooperatives was dependent on cooperatives having access to infrastructural facilities. Infrastructural facilities include road networks to meeting places and meeting venues' availability. However, the result from Table 4 suggests that the cooperative societies' location does have minimal performance. This means that the operational performance of the cooperative societies is independent of whether the cooperative is located in an urban or rural setting. The result also suggests corporate bank account ownership significantly affects cooperative societies' operational performance. This means that cooperatives that are more included in the community financial system appear to have better operational performance.

The socioeconomic characteristics of the top manager showed that the top manager's educational status and experience were the two factors that determined the cooperative's operational performance. The top manager here represents the elected president of the cooperative society. However, the top managers' age and gender do not significantly affect operational performance.

DISCUSSIONS

In rural and agrarian economies, group belongingness and cooperative formation are crucial as essential services, such as electric power, irrigation facilities, extension knowledge, and even insurance services, can be secured through cooperatives (Ndifon et al., 2012). Belonging to a cooperative society can directly benefit farmers, including low-cost credit, supplies and equipment for farm and household needs, and marketing products (Ndifon et al., 2012). Therefore, in everyday life, cooperatives can benefit farmers in many ways. However, the operational performance of a cooperative is critical if the benefits and goals of a cooperative are to be harnessed. This study focused on three criteria for judging the operational performance of a farmer cooperative society. These three factors are the level of participation of its members in meetings and other gatherings, their level of participation in voting and day-to-day decision-making activities, including elections, and the member commitment in financial matters such as contribution in payment of dues and transacting through the cooperative societies.

Our findings showed a low level of performance in meeting attendance among members of the regional cooperative societies surveyed. However, interestingly, when the membership is smaller, the attendance rate at meetings is higher compared to cooperative societies with larger memberships. This shows that small cooperative groups might be a more effective way of engaging farmers. It may be easy to reach out and know when a member is not present, which is why the level of engagement appears to be higher among cooperatives with smaller membership sizes. However, beyond attendance of meetings, a more important criterion is the level of engagement of the membership in making decisions within the cooperatives. According to Fici (2013), one of the fundamentals of a cooperative society is opening and inclusiveness. In other words, one way to measure the operational performance of any cooperative will be to determine how the members of the cooperative society are involved in making day-to-day decisions. Based on this criterion, one can submit that the cooperative society in the study area has a high operational performance. Over 80% of the members make regular decisions in the cooperatives and vote for the leaders. This is a good performance when contrasted with reports on the operational performance of cooperatives in other developing economies, such as the Northern Province of Sri Lanka, where membership involved was perceived to be low (Mangaleswaran & Alfred, 2014).

In terms of financial involvement, it was surprising to observe that only about 30% of the members either contribute financially to the success of the society or are involved in transacting through the cooperative. This is a low performance as one of the essential goals of a cooperative society is to assist their group purchase and sales of their products to maximize profit (Mahazril'Aini et al., 2012). This result, however, does not corroborate the findings of Dimelu et al. (2014), who reported that 100% of Rice farmers' cooperative members in Enugu state are committed to payment of dues. The contrary findings from this study might be explained by the fact that most farmers are smallholders engaged in self-provisioning and the excess they directly dispose of at the market. Unlike rice farming, a primary commercial production in the area, it will readily benefit from group purchases of inputs and sales of products.

Furthermore, this could also be attributed to a lack of trust by members in their cooperatives, perhaps due to poor leadership or poor orientation regarding cooperative movement. Membership participation in cooperative economic activities is compulsory and one of the unique attributes of any true cooperative. A cooperative can only be autonomous if

its members contribute to financing the cooperative businesses rather than depend wholly on external financing. There was also the challenge of very poor patronage by members of their cooperatives. This could be due to a lack of trust/ fear of not getting patronage refunds from cooperatives or a lack of members' knowledge of the importance of patronage to cooperative sustainability. Patronage by members is essential to a cooperative movement as a democratic organization that should be owned, used, and controlled by members. In a related study, Olabisi and Petronilla (2011) reported a positive relationship between membership patronage and performance realization.

In general, the perception of the cooperatives based on the Likert scale rating confirms that the operational performance of the farmers' cooperative societies is only high when assessed based on members participating during decision-making and members voting during elections. This suggests that efforts to enhance the operational efficiency of the cooperatives should be directed at encouraging membership attendance at meetings and making financial contributions. The result of the logit model provides two broad perspectives on understanding the factors that determine the operational efficiency of the farmers' cooperative societies. The first is the characteristics of cooperative societies. Here, we showed that factors such as membership strength, the Age of the cooperative, and the level of access to training, inputs, and infrastructure are important when analyzing the operational efficiency of a cooperative society. A cooperative's year of existence improves experience, enhancing skill acquisition and use of input to expand production for higher output. Okoli (2018) reported a positive and significant relationship between farming experience and the extent of organic waste use for urban farming. Adefila (2012) also reported a positive relationship between cooperative performance and cooperative years of existence. This study also observed that cooperatives with more members performed better than those with lower membership. This correlates with the findings of this study, which showed that cooperatives with large memberships have a higher involvement of members in decision-making and financial contributions. Access mechanisms of cooperative societies are essential for their continuous operation (Wanyama et al., 2008). Based on the available data employed in this study, access to free input had a positive relationship with the level of operational performance of farmers' cooperative societies. It was significant at a 1% probability level, implying that cooperatives' operational performance level depended on cooperatives having access to free input from government or non-governmental organizations. This is plausible because the farmers will be more incentivized to engage with a cooperative society where they perceive that it can be a vehicle for accessing palliatives from the government or NGOs. The importance of farmers' cooperatives' access to production inputs cannot be overemphasized, as it has been one of the most important motives for some of them joining different types of cooperatives. External assistance in the form of inputs is a factor that can improve the performance of cooperative societies as it encourages them to perform many of their functions for their members. Similarly, Cooperative education/ training is important in enhancing strong and better-performing cooperative societies. It is essential to train and educate cooperative members to improve their capacity to bring optimum results and promote the sustainability of their business organizations (Anania & Rwekaza, 2016; Hussain, 2014). Paulo and Gratian (2018) noted that providing education and training enables the implementation of daily activities to enhance the operational performance of cooperatives. By forming cooperatives, the farmers can be easily reached by extension agents and field officers responsible for teaching them how to improve their performance. Finally, regarding access to infrastructural facilities, the study observed a positive relationship with the level of operational performance of farmers' cooperative societies. This implies that the level of operational performance of cooperatives was dependent on cooperatives having access to infrastructural facilities. The results are consistent with the research by Muthyalu (2013), who reported that infrastructural factors significantly influence farmers' Cooperatives. In a related study, Tewodros (2017) also reported a positive relationship between access to infrastructural facilities and cooperative performance. Most members might be unable to access the meeting place due to a bad road network or simply because the meeting venues are in bad shape. Sometimes, it was observed that many of these cooperatives meet under the trees, making it difficult to have a good number turned up, especially during the rainy seasons. Turning now to the personal attributes of the leadership, we found that the top leader's experience and the top leader's educational status positively determine operational performance. A leader with experience in cooperative organization must actively engage the members and give them a sense of belonging. This finding suggests the need to ensure that at least the top managers of these cooperatives are trained to pilot the affairs of the cooperatives effectively. Experience and education go hand in glove. Our finding shows that, just like the experience of the top manager, the educational status of the top manager also improves the operational efficiency of the farmers' cooperative societies. This means that even though the cooperatives are democratic, there is a need for the members to appoint those who have the experience and training to pilot the affairs of the society.

Apart from the personal attributes of the top leaders and the cooperatives themselves, the influence of external bodies such as government ownership and NGO support will also play a significant role in determining the operational efficiency of the cooperative societies. Our finding suggests that cooperatives established by the government or with government influence had better operational efficiency. This is also the case with cooperatives that receive financial or knowledge support from non-governmental organizations. This shows that external influences are necessary to compel farmers' cooperatives to engage their members and carry everyone along actively.

CONCLUSIONS

Farmers' cooperative societies perceived that members wanted more from their cooperatives. Also, members lacked the required commitment and participation in their membership obligations for the optimum realization of operational performance, such as members' commitment to attendance meetings, members' commitment to payment of dues as required, members buying produce from cooperatives, and members selling their produce through cooperatives. The socioeconomic factors, membership strength, Age of the cooperatives, access to free input, access to training, and access to infrastructural

facilities were statistically significant and positively related to farmers' cooperatives' level of operational performance. It is evident that farmers' cooperatives are still a viable means of poverty alleviation among poor farmers; hence, the need to encourage good governance, members' commitment/participation, and government support to enhance their operational performance and achieve their objectives.

Therefore, the study recommends that cooperative promotion offices, Non-Governmental organizations (NGOs), secondary cooperatives (unions), and primary cooperatives themselves prioritize upgrading the conceptual, technical, and managerial skills of management committees and members through short-term and long-term training programs. This will ensure transparency, accountability, commitment, and willingness of members.

The result suggests that several socioeconomic factors are essential in achieving farmers' cooperative's optimum performance. There should be increased equity capital by the cooperative through the formulation of mechanisms that promote members' savings and buying of additional shares. Moreover, governments and other financial institutions should arrange for long-term financial credit, working capital management, record keeping and documentation systems.

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