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Perceived Effectiveness of Agricultural Cooperatives by Smallholder Farmers: Evidence from a Micro-Level Survey in North-Eastern South Africa

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Abstract: The importance of agricultural cooperatives and other community-based organizations in facilitating sustainable agricultural development in South Africa cannot be downplayed. The aim of the study was to analyse smallholder farmers' perception of the effectiveness of agricultural cooperatives in rendering support services to their enterprise in Mpumalanga Province of South Africa. A multistage sampling procedure was employed to elicit data from a sample of 120 smallholder farmers drawn from 150 farmers—members who were currently active members of agricultural cooperatives. A structured questionnaire was used to collect data that were analysed using descriptive statistics. Multiple linear regression was used to determine the socio-economic and institutional factors influencing the member farmers' perception of cooperative effectiveness. The findings revealed that although agricultural cooperatives in the area rendered some level of support services to their members, the majority of the respondents perceived their cooperative as ineffective in rendering some key support services to them that could potentially improve their livelihoods. The results of inferential analysis indicate that factors such as farm size, level of education, household size, farming experience, major crop grown/animal reared, number of cooperative members, support services received index, and satisfaction of leadership processes were significant socioeconomic and institutional factors that influence respondent's perception. The study recommended increased government public recognition and support for agricultural cooperatives development, increased resource base through more access to grant and donations, and improved linkages between cooperatives and extension agencies as a means of improving the effectiveness of agricultural cooperatives in the area.

Keywords: agricultural cooperatives; smallholder farmers; perceived effectiveness; multistage sampling procedure; multiple linear regression analysis



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Citation: Nyawo, P.H.; Olorunfemi, O.D. Perceived Effectiveness of Agricultural Cooperatives by Smallholder Farmers: Evidence from a Micro-Level Survey in North-Eastern South Africa. *Sustainability* **2023**, *15*, 10354. <https://doi.org/10.3390/su151310354>

Academic Editors: Paolo Prospero and Iuri Peri

Received: 2 May 2023

Revised: 20 June 2023

Accepted: 27 June 2023

Published: 30 June 2023



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1. Introduction

Smallholder agriculture has been identified as one of the most important economic assets for many South Africans who live in rural areas [1], as about 70 percent of rural dwellers in southern Africa rely on the agricultural sector for their livelihood [2]. According to [3], smallholder agriculture in South Africa is perceived as a livelihood option to achieve poverty reduction and rural development goals. However, in South Africa, smallholder farm families are still more vulnerable than other categories of workers [4]. Smallholder farmers are associated with the lowest income earners; they tend to live in poverty, suffer hunger and malnutrition, and experience high levels of food insecurity [5,6]. Smallholder farmers are still pressured by various socio-economic challenges arising from many developmental gaps created by the government [7]. Thus, the need for the promotion and formation of agricultural cooperatives was identified to have the potential in filling some of the developmental gaps, while also ameliorating the various constraints encountered by smallholder farmers in facilitating improvements in their social and economic development.

Agricultural cooperatives are a vehicle for job creation and food security, and for promoting self-reliance in rural communities [8]. In South Africa, they started in the early 1920s and they were expected to support and empower smallholder farmers, encourage access and distribution of resources more equally, facilitate improved supply chain distribution and better access to the market by smallholder farmers, and promote better livelihoods among rural farmers [9]. The major purpose of agricultural cooperatives in South Africa is to foster socio-economic development by generating income, creating jobs, and empowering black people. They are expected to help smallholder farmers collectively bargain for better prices and improve financial accessibility [10,11]. Therefore, the potential role of agricultural cooperatives and other community-based organizations in complementing government efforts by facilitating sustainable agricultural development in South Africa, especially among smallholder farmers is very important and cannot be downplayed.

Agricultural cooperatives in South Africa are expected to support and empower smallholder farmers, promote the more equitable distribution of resources and their access to them, facilitate improved supply chain distribution and better access to the market by smallholder farmers, and promote better livelihoods among rural farmers. However, according to [12,13], with the development of democracy in post-1994, the South African agricultural co-operatives fraternity is perceived to have been performing below expectation as the much-desired development in the agricultural sector is still far from being achieved [14,15]. A critical review of the available literature shows that past research studies carried out in Africa, and especially in South Africa, have focused more attention on financial investment and efficiency [1,16,17], determinants of membership of cooperative societies [18,19], and on the administrative governance and management [20,21] of agricultural cooperatives or farmer-based organizations. Additionally, similar perception-related studies found poor performance of agricultural cooperatives [22–24]. However, there has been a dearth of empirical research, especially in the study area that focuses directly on the disposition of smallholder farmers, who are agricultural cooperative members, on the effectiveness of these organizations in supporting and meeting their needs. These smallholder farmers are the direct beneficiaries of the services rendered by these agricultural cooperatives, thus, their views and perspectives on the performance of these organizations are very important. Hence, in a bid to fill this lacuna, this empirical study assessed the perceived effectiveness of agricultural cooperatives in supporting smallholder farmers in South Africa using the Mpumalanga Province as a case study. To achieve the aim of the study, three research questions guided the research: what are the perceived support services rendered by the agricultural cooperatives to the smallholder farmers? What are the socio-economic and institutional determinants influencing smallholder members' farmers perceived effectiveness of agricultural cooperatives in rendering support services? What are the constraints encountered by these cooperatives in supporting the smallholder farmers in the study area? Specifically, the study examined the support services rendered by agricultural cooperatives to smallholder farmers in the study area, determined the socio-economic and institutional factors influencing smallholder member farmers' perceived effectiveness of agricultural cooperatives in rendering support services, and investigated the constraints faced by these cooperatives in supporting farmers. This is expected to provide useful empirical information for government, rural development stakeholders, cooperative administrators, and policymakers on the level of effectiveness of agricultural cooperatives in contributing to the livelihood of the farmers in the study area. Furthermore, in alignment with the Sustainable Development Goals (SDG 1 and 2) that is aimed at eliminating all forms of hunger, poverty, and malnutrition by 2030, the study will provide a roadmap on strategies and gaps that needs to be filled in establishing the right platform for ensuring effective service delivery by agricultural cooperatives in the area.

2. Literature Review

According to [25,26], cooperatives were first started up in Europe before spreading to other industrialised countries just prior to the advent of the 20th century. Nevertheless,

the establishment of cooperatives was an effective tool to curb the harsh circumstances of poverty. In Africa, Kenya is one of the countries whereby cooperative development was first adopted due to the significant impact it has had on the overall economy of the country ever since it achieved its liberation [25]. The first cooperatives in South Africa were developed in the Orange Free State in the 1910s, just three years after the formation of the South African Cooperatives Act in 1908. These cooperatives received a central function in running marketing arrangements. They were responsible for the marketing of agricultural production. In practice, they began to operate in all value chains, from the supply of inputs and credits to distribution, sales, and exports [27]. The main purpose of these agricultural cooperatives was to improve the conditions of their members. Agricultural cooperative institutions were intended to give smallholder farmers a greater share of the value chain of the products they produce. They are meant to allow farmers to negotiate more effectively with the buyers and have greater access to better networks and new skills through capacity development [28]. These cooperatives have the potential to grow not only themselves but also the communities where they are located [28].

The establishment of agricultural cooperatives has been extensively encouraged as an agricultural development policy intervention that will serve farmers to manage multiple production and marketing difficulties [29]. Agricultural cooperatives are crucial in supply chains to help farmers improve their farming activities and ensure they move towards achieving sustainable agriculture [30]. Agricultural cooperatives are a catalyst for economic growth because members associate to coordinate size savings and improve bargaining influence [31]. Nowadays, agricultural co-operatives are more and more viewed as catalysts to encourage better agricultural knowledge and eradicate food insecurity and poverty. Cooperative associations tend to enhance crop yields, household earnings, and household resources, and lower transaction costs to access input and output markets [32]. However, despite the potential benefits derivable from the effective functioning of cooperative organizations, agricultural cooperatives in South Africa, especially cooperatives owned by black people, seems not to be living up to their expectations. There are limited empirical studies in South Africa that have provided insight as to why this is, especially with opinions and ideas from the perspectives of smallholder farmers who are at the centre of operating and benefitting from the optimal functioning of these organizations. This study thus focuses on how smallholder farmers who are members of agricultural cooperative organizations currently perceive the effectiveness of cooperative organizations they belong to and the challenges these cooperatives are facing that affect their performance.

According to [33], smallholder farmers' perception of how effective the cooperative organizations they belong to will be a function of their past, present, and future experiences which incorporates their contexts, expectation, needs, and goals. The opinion of [34], is that perception is the transformation of information received from an individual's environment into psychological awareness. Therefore, investigating the perception of the small-holder farmers is important because it helps them to communicate their understanding of what and how they see their experiences so far with their agricultural cooperatives in relation to how their needs are being met as members of these organizations. The concept of need as highlighted by the Bradshaw need model points out four categorizations of needs among which the "felt needs" is of paramount interest and importance in this research study. Ref. [35] stated that felt needs are those categories of needs that are perceived by the individual and thus are related to individual perception and knowledge of services. The felt needs of the farmers are evident by the varying social and economic profile of the cooperative members and the constraints they individually faced within their farm enterprise. Thus, the perceived effectiveness of farmers on the services rendered by their cooperatives hinges on how these cooperatives are able to meet the diverse felt needs of their members. Agricultural cooperatives can be considered successful if making a meaningful contribution to smallholder farmers' livelihoods. However, smallholder farmers will have a positive perception when the kind of services rendered by those cooperatives meet their felt needs.

3. Materials and Methods

3.1. Study Area

This study was carried out in the Mpumalanga province of South Africa, which is located in the east of the country, and is bordered by Swaziland and Mozambique, and to the north, by Kwazulu-Natal. Mpumalanga is made up of four district municipalities: Ehlanzeni, Bohlabela, Kangala, and Gert Sibande [36]. The Mpumalanga province is in the summer rainfall area, and the climate varies as a result of the differences in altitude. There are three types of topography: Highveld, Escarpment, and Lowveld. Field crops are primarily produced in the Eastvaal and Kangala districts, while winter veggies are imported from Ehlanzeni. Animal goods such as chicken, eggs, beef, and pork constitute the province's second-largest source of gross income. Natural grazing occupies roughly 13.6 percent of Mpumalanga, whereas commercial forest plantations cover more than 10 percent of its total area. Furthermore, the annual rainfall in Mpumalanga ranges from 500 mm in the eastern Lowveld to 700 mm in the western Highveld, with over 1100 mm near the escarpment [37].

3.2. Sampling Procedure and Sample Size

Quantitative research was adopted in the study using a descriptive survey research design. The research design was employed following the lead of [38,39] who also applied this design in a similar perception-related study. The target population for the study consists of all farmers that at the time of the research were members of functional agricultural cooperatives in the study area. Prior to the selection of the respondents, the study adopted a multistage sampling procedure that combined probability and non-probability sampling techniques. A pre-testing of the questionnaire was undertaken on a few active cooperative member farmers. The first stage was a selection of two (2) municipalities, namely, Mkhondo and Msukaligwa, and was based on the prominence of agricultural cooperatives in these areas. The second stage employed a non-probability sampling whereby eight (8) major prominent cooperatives in the study area (four from Mkhondo and four from Msukaligwa municipality) were purposely selected. This was then followed by a proportionate random selection of 80% of farmers in each of the selected cooperatives and based on the list of farmer members that was obtained from the selected cooperatives. Table 1 provides details of the sampling procedure employed in the study. Thus, the sample size used in the study numbered 120 smallholder farmers drawn from 150 farmer-members who were currently active members of agricultural co-operatives in the area.

Table 1. Summary of sampling procedure.

Stage 1: Purposive Selection of Municipality	Stage 2: Purposive Selection of Cooperative	The Population of Cooperative Members	Stage 3: Proportionate Random Selection of Members/Farmers
Mkhondo Municipality	Cooperative A: Mkhondo Agricultural Joint Venture	30	24
	Cooperative B: Ikhwezi Likusah	15	12
	Cooperative C: Thuthuka Ngemvelo	15	12
	Cooperative D: Intandekho	10	8
Msukaligwa Municipality	Cooperative E: Lothair Agricultural Youth	39	31
	Cooperative F: Ukukhanya Okuhle	14	11
	Coop G: Vulamlimi Agricultural Cooperative	15	12
	Cooperative H: Tholulwazi	13	10
Total	8 cooperatives	150	120

Source: Authors computation, 2021.

3.3. Data Collection and Analysis

A structured questionnaire was developed as the survey instrument that was used in eliciting data for the study. Prior to the data collection process, two (2) enumerators were trained to help with the data collection. The collected data was then analysed using descrip-

tive statistics such as frequency counts, percentages, means, and ranks using IBM SPSS software version 28. Furthermore, multiple linear regression adopting the ordinary least square approach used as an inferential statistic was used to analyse the socio-economic and institutional factors influencing smallholder member farmers' perceived effectiveness of agricultural cooperatives in rendering support services in the area. The respondents' socio-economic characteristics and cooperative institutional characteristics were the independent and explanatory variables used in the two-regression model, while the computed perceived effectiveness score of the respondents served as the dependent variable in the model.

Based on the reviewed literature above, a hypothetical synthesized summary of a flow chart was developed as shown in Figure 1. The chart is divided into two basic components, classified as independent and dependent. The independent variables in the synthesized diagram are the smallholder farmers' socioeconomic characteristics such as age, gender, marital status, position held, average annual income, education level, etc. The relationship that occurs between the socio-economic characteristics of the smallholder farmer and all other variables, namely, the institutional characteristics and the challenges that the agricultural cooperative may be facing, will ultimately determine the support services farmers receive. These support services may include factors such as access to credit, inputs, labour force, markets, etc., and they are expected to be tailored to the farmers' needs. The perception of the effectiveness of these cooperatives by the smallholder farmers, which is the dependent variable in the study, will ultimately be determined by the question as to whether the cooperative society can provide adequate support in meeting farmers' felt needs or not by the support services they are able to render.

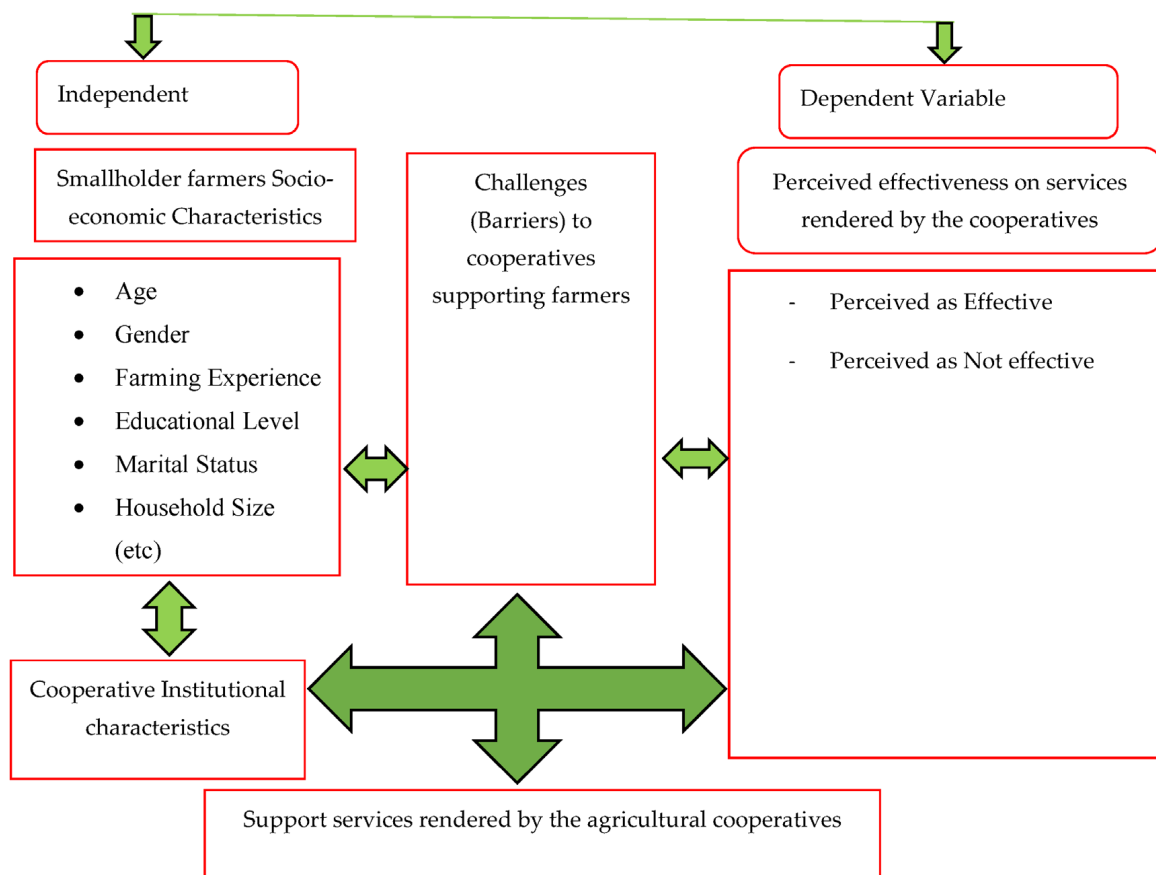


Figure 1. A flow chart showing the relationship between variables in the study. Source: Author's Concept.

3.4. Model Specification

Inferential Statistics

The multiple linear regression model was employed in the study because of its ability to use several independent or explanatory variables to determine the outcome of dependent variables that is continuously measured [40]. The model was used to analyse the respondents' socioeconomic and cooperative institutional characteristics that significantly influence their perceived effectiveness of services provided by agricultural cooperatives. Data concerning the farmers' perceptions of the effectiveness of the support services rendered by agricultural cooperatives was assessed in terms of a 4-point Likert Effectiveness Scale rated as very effective (4), effective (3), fairly effective (2), and not effective (1). Following the lead of [41], a composite score analysis was then used to compute individual perceived effectiveness scores for each respondent from the Likert scales. These computed perception scores then served as a proxy for the farmers' perceived effectiveness index which was then fitted as the dependent variable in the multiple linear regression model. Several previous research studies [41–43] have also adopted a similar procedure of generating perception index from Likert scales and fitting it into multiple linear regression models.

The explicit form of the model can thus be given as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n + e \quad (1)$$

where:

Y is the farmer's perceived effectiveness score/index of support services rendered (computed from the Likert effectiveness scale);

X is a vector of hypothesized explanatory variables which included farmers' socioeconomic characteristics (age, gender, marital status, educational attainment, household size, farming experience, extension visit, etc.) in model 1 and cooperative institutional characteristics (number of cooperative members, satisfaction of leadership, constitution availability, etc.) in model 2;

β is a vector of unknown parameters to be estimated and e is independently and normally distributed random error term. Table 2 shows the details of the explanatory variables fitted into the model.

Table 2. Description of farmers' socioeconomic characteristics and cooperative institutional characteristics variables used in the multiple linear regression.

Socio-Economic Variables	Description
Position held	measured as a dummy variable 1 for leader, 0 for members
Gender	measured as a dummy variable 1 for males, 0 if otherwise
Marital Status	measured as a dummy variable 1 for married, 0 if otherwise
Household Size	measured as the number of persons (continuous)
Educational Level	measured as 1 for if possession of high formal education ranging from matric and above and 0 if otherwise
Annual Income	measured in rands (continuous)
Years of Experience	measured in years (continuous)
Farm Size	measured in hectares (continuous)
No. of Years as a Cooperative Member	measured in years (continuous)
Secondary Occupation	measured as a dummy variable 1 for Yes and 0 if otherwise
Institutional Variables	
Number of Cooperative members	measured as number of persons (continuous)
Constitutional availability	measured dichotomously as 1 if Yes, as 0, if otherwise
Leadership satisfaction	measured dichotomously as 1 if "Satisfied", and 0, if otherwise
Decision making process	measured dichotomously, as 1, if "All members", 0, if otherwise
Holding of meetings	measured dichotomously as 1, if "Fortnightly or Monthly", 0 if otherwise
Level of attendance	measured dichotomously as 1 if "High", 0 if otherwise
Support Service received	measured as computed score of services received (continuous)

3.5. Ethical Consideration

The ethical clearance to carry out this study was approved by the University of Mpumalanga Ethics Committee and obtained through the Faculty of Natural and Agricultural Sciences with reference number UMP/Nyawo/MAGric/2021. In the administration of the questionnaire, the researcher asked for the consent of the respondents and assured them of great confidentiality. The anonymity and voluntary participation were adhered to through signing of an informed consent form before enumerators interviewed the respondents to complete the questionnaire. The informed consent served as proof that the respondents were informed about the details of the study and respondent's name, or personal identifiers were not captured during the study.

4. Results

4.1. Socio-Economic Characteristics of the Smallholder Farmers

The results in Table 3 across the study area shows the socio-economic profiles of the respondents. The findings indicated that the majority (76.5%) of the smallholder farmers were under 40 years old, 16.7% were between 41 and 60 years old, and a minority (8.0%) were over 61 years old. The mean age of the smallholder farmers was 35.23 years, with a standard deviation of 12.89. About three-quarters (74.0%) of the respondents were females, while males accounted for only (26.0%). The marital status shows that majority (89.2%) of the respondents were unmarried, while only a few (10.8%) were married. The findings from Table 3 depicts that less than half (47.5%) of the smallholder farmers had a household size of five to eight persons, 44.2% had a household size of nine persons or more, and a handful (8.4%) had a household size of one to four persons, with an overall mean household size for the study area being eight persons. Table 3 also shows that the majority (77.5%) of the smallholder farmers had attained a secondary education level, 12.5% a primary education level, and 7.5% a tertiary education level, while a small number (2.5%) had been in adult education. Moreover, a majority (76.7%) of the smallholder farmers had farming experience of nine years and less, 21.6% had farming experience from 10–20 years, while a few had a farming experience of 21 years and more. The average farming experience is 5.44 years.

Table 3. Distribution of the respondents according to age, household size, farming experience, farm size, and average monthly income.

Characteristics	Frequency (%)	Mean (SD)
Age (Years)		35.23 (12.89)
≤20	1 (0.8)	
21–40	91 (75.7)	
41–60	20 (16.7)	
61 and above	8 (6.5)	
Gender		
Females	89 (74.0)	
Males	31 (26.0)	
Marital Status		
Unmarried	107 (89.2%)	
Married	13 (10.8%)	
Household Size (Persons)		8.10 (2.58)
1–4	10 (8.4)	
5–8	57 (47.5)	
9 and above	53 (44.2)	
Level of Education		
Adult education	3 (2.5)	
Primary education	15 (12.5)	
Secondary education	93 (77.5)	
Tertiary education	9 (7.5)	

Table 3. Cont.

Characteristics	Frequency (%)	Mean (SD)
Major crop grown/animal reared		
Spinach	65 (54.2)	
Cabbage	8 (6.7)	
Maize	24 (20.0)	
Piggery	12 (10.0)	
Broiler chicken	11 (9.2)	
Farming experience (Years)		5.44 (5.93)
≤9	92 (76.7)	
10–20	26 (21.6)	
21 and above	2 (1.6)	
Average Monthly Income (Rand)		5017.50 (4934.16)
1000–5999	83 (69.1)	
6000–10,999	19 (10.7)	
11,000–19,999	17 (19)	
20,000 and above	1 (0.8)	
Farm Size (Hectares)		8.86 (10.84)
≤5	76 (63.3)	
6–10	20 (16.7)	
10.1 and above	24 (20)	

Source: Field Survey, 2022.

The results from Table 3 further reveal that more than half (54.2%) of the cooperative members were majorly into spinach production, 20.0% were engaged in maize production, and a few (10.0%) in rearing pigs. Others were into broiler (9.2%), and cabbage (6.7%) production. The study found that the diversity of the crops grown might also tend to affect the way smallholder farmers perceive the effectiveness of the cooperatives they belong to. Moreover, more than two-thirds (69.1%) of the smallholder farmers live on a monthly income of R1000–5999, while (19.0%) live on a monthly income of R11,000–19,999, and 10.7% live on R6000–10,999. Only a few (0.8%) respondents live on a monthly income of R20,000 and above, with an average monthly income of R5017.50. Furthermore, under two-thirds (63.3%) of the smallholder farmers had a farm size of five hectares of land and smaller, 20% of farmers had a farm size within the range of 26–30 hectares, and 16.7% had a farm size within the range of 6 to 10 hectares of land with the average mean farm size of 8.86 hectares. About three quarters (72.0%) of the smallholder farmers have been cooperatives members for less than five years and 15.8% of them have been members of the cooperatives for a period of 6 to 10 years. About 9.1% have been members of the cooperative for 11 to 15 years, while a handful (2.5%) have been members for 16 years and more.

4.2. Institutional Characteristics of the Agricultural Cooperatives

The findings from Table 4 shows that about two-thirds (65.0%) of the agricultural co-operatives across the study area had no constitution, while only 35.0% had one. The results also indicated that more than two thirds (68.3%) of the smallholder farmers are satisfied with the leadership process in their cooperatives, 11.7% indicated that they are very satisfied, 13.3% they are fairly satisfied, while only a handful (6.7%) remained dissatisfied. The results in Table 4 further show that the majority (96.7%) of members participate almost in virtually all the decision-making, while only a few (3.3%) of the decisions in the organization are taken by a selected few. The results also show that more than half (56.7%) of the smallholder farmers stated that meetings are held in their cooperatives on a monthly basis, 33.3% indicated that meetings were held quarterly, while a handful (10.0%) stated that meetings were held fortnightly. Table 4 also reveals that the level of attendance in co-operative meetings was mostly (60.0%) moderate, others rated it to be high (8.3%), and some indicated that it was low (31.0%). Moreover, findings show that more than half (54.2%) of the smallholder farmers consider their cooperative membership status to remain

the same, 40.8% reported a decrease, while a few (5.0%) reported an increase. Table 4 further indicates that the majority (93.3%) of the agricultural cooperatives in the area have 11 and more members. On average, the cooperative membership in the area is 24 members.

Table 4. Distribution of respondents according to institutional characteristics.

Characteristics	Frequency (%)	Mean (SD)
Years of cooperative membership		4.54 (4.02)
≤5	87 (72)	
6–10	19 (15.8)	
11–15	11 (9.1)	
16 and above	3 (2.5)	
Constitution availability		
Yes	42 (35)	
No	78 (65)	
Satisfaction of leadership process		
Very satisfied	14 (11.7)	
Satisfied	82 (68.3)	
Fairly satisfied	16 (13.3)	
Not satisfied	8 (6.7)	
Decision-making process		
Selected few members	4 (3.3)	
All members	116 (96.7)	
Holding of meetings		
Fortnightly	12 (10.0)	
Monthly	68 (56.7)	
Quarterly	40 (33.3)	
Level of attendance		
High	38 (8.3)	
Moderate	72 (60.0)	
Low	10 (31.7)	
Membership status		
Increasing	6 (5.0)	
Decreasing	49 (40.8)	
Remain the same	65 (54.2)	
No. of cooperative members		24 (11)
≤10	8 (6.7)	
11 and above	112 (93.3)	

Source: Field Survey, 2022.

4.3. Support Services Rendered by the Agricultural Cooperatives

The results in Table 5 show that the main support services that smallholder farmers receive from their cooperatives are those facilitating unity and improving group dynamics (96.7%), assistance in conflict mediation (96.4%), the provision of technical advice and support and of saving services (81.7%), facilitating access to farm inputs (75.0%), and providing support in accessing farm labour (75.0%). Table 5 also reveals the type of support services that cooperatives were not able to assist with as expected in facilitating their access to extension services (90.0%), unionism, (87.5%), processing facilities, value-added support (85.8%), loan and credit facilities (78.3%), and agricultural machinery (73.3%).

4.4. Perceived Effectiveness of Agricultural Cooperatives in Rendering Support Services

Using mean score to rank the perceived effectiveness of the support services rendered by cooperatives, prominent support services perceived as effective by farmers. Table 6 shows that assistance with conflict mediation (MS = 3.08) was ranked first, facilitation of access to unity and group dynamics (MS = 2.70) was ranked second, support in accessing farm labour (MS = 2.61) was ranked third, and provision of technical advice and support (MS = 2.58) was ranked fourth. The results in Table 6 depict that the majority of the respondents indicated that the agricultural co-operatives were effective in providing assistance in conflict mediation as this was ranked first.

Table 5. Support services rendered by the agricultural cooperatives.

Support Services	Rendered	Not rendered
Assistance in Conflict Mediation	116 (96.4)	4 (3.3)
Provision of Saving Services	98 (81.7)	22 (18.3)
Facilitation of Access to Loan and Credit Facilities	26 (21.7)	94 (78.3)
Facilitation of access to Knowledge through Training and Workshops	82 (68.3)	38 (31.7)
Facilitation of Access to Farm Inputs	90 (75.0)	30 (25)
Facilitation of Access to Farm Machinery	32 (26.7)	88 (73.3)
Facilitation of Access to Processing Facilities and Value-added Support	17 (14.2)	103 (85.8)
Facilitation of Access to Extension Services	12 (10.0)	108 (90.0)
Support in accessing Farm Labour	90 (75.0)	30 (25.0)
Negotiations on Marketing and Transaction Costs	54 (45.0)	66 (55.0)
Facilitation of Transport of Produce to Markets	43 (35.8)	77 (64.2)
Technical Advice and Support for Members	98 (81.7)	22 (18.3)
Unionism	15 (12.5)	105 (87.5)
Facilitation of Unity and favourable Group Dynamics	116 (96.7)	4 (3.3)
Facilitation in marketing of Produce	89 (74.2)	31 (25.8)

Value in parenthesis signifies percentages; Source: Field Survey, 2022.

Table 6. Perceived Effectiveness of services rendered by agricultural cooperatives.

Services Rendered	Mean	Rank
Facilitate access to loan and credit facilities	1.43	13th
Facilitate access to farm input	2.29	6th
Improve access to market	2.0	8th
Facilitate access to knowledge through training and workshops	2.33	5th
Assistance in conflict mediation	3.08	1st
Facilitate access to Farm machinery	1.63	11th
Support in accessing to farm labour	2.61	3rd
Facilitate access to value additional support	1.20	14th
Facilitate access to extension services	1.76	10th
Negotiating marketing and transaction costs	1.96	9th
Facilitation of transport of produce to market	1.48	12th
Facilitate unity and group dynamics	2.70	2nd
Facilitate produce marketing	2.10	7th
Unionism	1.18	16th
Facilitates access to processing facilities	1.19	15th
Technical advice and support to members	2.58	4th

Mean Score derived from very effective = 4, effective = 3, fairly effective = 2, not effective = 1.

Based on the mean scores, quite a number of the support services agricultural cooperatives are expected to render to the smallholder farmers were perceived as not effective as they were below the benchmark of 2.5. Prominent among these ineffective support services were access to extension services (MS = 1.76), access to farm machinery (MS = 1.63), facilitation of produce transport to market (MS = 1.48), access to loan and credit facilities (MS = 1.43), access to value addition support (MS = 1.20), and access to processing facilities (MS = 1.19). The results in Table 5 show that cooperatives were ineffective in providing access to extension services. Furthermore, Table 6 shows that agricultural cooperatives were not effective in supporting their members in facilitating produce transport to market. Moreover, findings in Table 6 reveal that cooperatives have not been effective in providing access to value-added support and processing facilities.

4.5. Constraints Faced by the Agricultural Cooperatives

The results in Table 7 reveal that inadequate access to grants, donation, support, and small resource base were viewed as topmost institutional constraints faced by cooperatives. Inadequate linkages of the cooperatives with other stakeholders were ranked as the third most severe constraint, while inadequate monitoring and evaluation by relevant agencies was ranked the fourth most severe constraint facing agricultural cooperatives in the area.

Furthermore, Table 7 shows that weak marketing arrangements and insufficient government assistance were both ranked fifth and sixth most severe constraints. Lack of proper recognition by the government and other organizations was ranked seventh. While both irregularity of meetings and land shortage for members were ranked eighth and ninth as the most severe constraints. Unfavourable government policy and inadequate training for members were both ranked 10th and 11th most severe constraints facing agricultural cooperatives in the area.

Table 7. Constraints faced by the Agricultural Cooperatives.

Constraints	Mean	Rank
Inadequate access to funding and small resource base	2.48	2nd
Insufficient government assistance/support	2.33	6th
Inadequate linkages with other stakeholders	2.41	3rd
Lack of proper loyalty and support from members	1.68	16th
Lack of proper recognition by the government and other organizations	2.25	7th
Leadership/governance problem	1.53	17th
Irregularity of meetings	2.16	8th
Unfavorable government policies	2.15	10th
Inadequate training for members	2.10	11th
Poor involvement of members in decision making	1.81	13th
Reduction/Loss of members	1.43	18th
Conflict and lack of cooperation from members	1.73	15th
Inadequate monitoring and evaluation by relevant agencies	2.38	4th
Land shortage for members	2.16	9th
Lack of access to timely and appropriate information that can benefit members	1.96	12th
Lack of technical skill by leaders	1.80	14th
Weak marketing arrangements	2.33	5th
Inadequate access to grants, donation & supports	2.59	1st

Mean Score derived from very severe = 3, moderately severe = 2, not severe = 1.

4.6. Farmers' Socioeconomic Factors Influencing Perceived Effectiveness of Support Services PROVIDED by Agricultural Cooperatives in the Study Area

The results in Table 8 show member farmers' socio-economic factors influencing their perceived effectiveness of the support services rendered by agricultural cooperatives using a multiple linear regression model. The results revealed that multicollinearity between the variables employed in the model was not a challenge. The Variance Inflation Factor (VIF) test for multicollinearity revealed that the computed mean VIF value was 1.76, and the tolerance values for the variables were also high. The model's adjusted R-squared was 0.4573, and the F-test statistic was 11.03, with a statistical significance of $p < 0.01$. This indicates that the model fits well and that the parameters are not statistically equal to zero. Five out of 10 independent variables fitted into the model were found to be significant factors that influence the smallholder farmers' perception of the effectiveness of the support services rendered by agricultural cooperatives. These significant socioeconomic factors include farm size ($t = 5.47, p \leq 0.01$), major crop grown/animal reared ($t = 2.15, p \leq 0.05$), level of education ($t = 2.04, p \leq 0.05$), household size ($t = -1.73, p \leq 0.10$), and farming experience ($t = -5.28, p \leq 0.01$).

4.7. Cooperative Institutional Factors Influencing Member's Perceived Effectiveness of Support Services Rendered

The results in Table 9 show the cooperative institutional characteristics that influence smallholder member farmers' perception of the effectiveness of support services rendered by agricultural cooperatives. The result of the multiple linear regression approach that was applied reveals that there is a strong relationship ($R^2 = 0.63$) between the independent variables and the respondent's perceptions of the effectiveness of the support services rendered by the cooperatives. The model predicted about 60% of the farmers' perceived effectiveness scores, with an F-test statistical score of 26.67 and statistical significance of $p < 0.01$. This demonstrates that the model fits well. The Variance Inflation Factor

(VIF) was used to test for multicollinearity among the variables in the model, and it was discovered that multicollinearity was not a problem as the mean VIF value was 1.66 with a high tolerance value across the variables. It was noted that the number of cooperative members ($t = -3.60$), and support services received ($t = 11.35$) were significant at the one percent (1%) level of significance, while their satisfaction with leadership was significant at the 10 percent level of significance, thus implying that these three variables significantly influence the member farmers' perceptions of the effectiveness of the support services rendered by these cooperatives.

Table 8. Farmer's socioeconomic characteristics influencing their perceived effectiveness of support services rendered by agricultural cooperatives in the study area.

Characteristics	Coef.	Std. Err.	T-Value	$p > t$	VIF	Tolerance
Name of cooperatives	-2.793543	0.4469422	-6.25	0.000	2.20	0.409807
Position held	0.6267138	1.688257	0.37	0.711	1.12	0.889798
Gender	-1.674633	1.431313	-1.17	0.245	1.11	0.897382
Marital status	-2.578963	2.6068	-0.99	0.325	1.86	0.536606
Household size	-0.4399392	0.2538639	-1.73	0.086 *	1.21	0.827278
Level of education	2.687619	1.318292	2.04	0.044 **	1.43	0.698899
Farming experience	-0.8282949	0.1569787	-5.28	0.000 ***	2.58	0.387890
Farm size	0.4824492	0.0882658	5.47	0.000 ***	2.58	0.387890
Major crop grown/animal reared	1.207935	0.5625353	2.15	0.034 **	1.75	0.571149
Secondary occupation	0.0588186	0.9031041	0.07	0.948	1.88	0.536606
Constant	42.19809	8.774136	4.81	0.000		
F	11.03					
Prob > F	0.0000					
R-Squared	0.5029					
Adj R-squared	0.4573					
Mean VIF					1.76	

Note: Statistical Significance *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 9. Cooperative institutional factors influencing the member farmers' perceived effectiveness of support services rendered by agricultural cooperatives in the study area.

Characteristics	Coef.	Std. Err.	t	$p > t$	VIF	Tolerance
No. of cooperative members	-0.2686549	0.745852	-3.60	0.000 **	2.62	0.381662
Constitution availability	-0.5285498	1.621951	-0.33	0.745	2.31	0.432049
Satisfaction of leadership process	1.30321	0.7612173	1.71	0.090 *	1.11	0.903024
Decision making process	-1.74769	3.228861	-0.54	0.589	1.30	0.769725
Holding of meetings	1.047521	0.9488963	1.10	0.272	1.32	0.757950
Level of attendance	-0.4296662	1.077047	-0.40	0.691	1.55	0.645064
Support service received	2.205766	0.1943918	11.35	0.000 **	1.39	0.719475
Constant	20.6718	8.689979	2.38	0.019		
F	26.67					
Prob > F	0.0000					
R-Squared	0.6250					
Adj R-squared	0.6016					
Mean VIF					1.66	

Note: Statistical Significance ** $p < 0.01$, * $p < 0.10$.

5. Discussion

5.1. Smallholder Farmers' Socio-Economic Profiles

The average age (35.23 years) of the respondents implies that the majority of the smallholder farmers participating in agricultural cooperatives are still in their youthful and productive years. This is corroborated by [39,40], who postulated that young smallholder farmers are productive and potentially positioned to contribute to the economic development of South Africa. The findings reflect the increased participation of women in agriculture, thus revealing that women empowerment efforts, which are at the centre

of economic development strategies in South Africa, are beginning to pay off. According to [44], findings that the dominance of female smallholders' farmers may mean that men tend to engage in other more improved types of non-agricultural employment than women. Furthermore, the majority (89.2%) of the respondents were unmarried and that might be because of the high rate of divorce and single parenthood in South Africa [45]. An average household size of eight persons indicates that smallholder farmers have dependents and responsibilities at home [46]. Moreover, that the majority (77.5%) of the smallholder farmers had attained a secondary education level, implying that they have great potential as thriving members of the cooperative in making informed assessments and decisions and have better chances of understanding technological breakthroughs in science and agribusiness [47]. The average farming experience of 5.44 years across the entire study area is an indication that the cooperative members who participated in the study are still young with less than a decade of experience in farming [48]. The study also found that the diversity of the crops grown might also tend to affect the way smallholder farmers perceive the effectiveness of the cooperatives they belong to. The average monthly income of R5017.50 among the farmers is still low when compared to the current economic trends and inflation in the nation [49]. The average farm size of 8.86 hectares indicates that the farmers in the area have quite sizeable areas of farmland that they use for agricultural purposes, which if properly managed, could contribute to sustainable and improved farmer livelihoods [50].

5.2. Institutional Characteristics of the Agricultural Cooperatives

The lack of a constitution by two thirds (65.0%) of the cooperatives implies that some of these cooperatives are still operating at an informal level as they do not currently have well-documented principles that properly guide the organization, and this needs to be remedied for proper formal functioning and sustainability of such organizations. The results also indicated that more than two thirds (68.3%) of the smallholder farmers are satisfied with the leadership process in their cooperatives. As opined by [13] that with effective leadership, cooperative members will generally be happy with their leaders as long as their service is transparent and conducted with commitment and integrity. The results further imply that the participation of the majority of members in almost all decisions serves as an indication that there is no dictatorship or autocratic leadership amongst the cooperative society in the study area. Furthermore, the level of attendance in cooperative meetings was mostly (60.0%) moderate. According to [51], regular membership participation at co-operative meetings and training sessions were essential factors in the successful development of cooperatives. Furthermore, the average cooperative membership in the area was recorded as 24 members. Cooperative membership can be sustained and increases when the organization focuses on meeting the felt needs of its members coupled with the provision of adequate training and support that cut across the board. Lack of proper processes leads to fluctuating participation in cooperative activities, poor attendance in meetings, and ultimately likely to decrease membership status and sometimes subsequent demise of the cooperative [50].

5.3. Support Services Rendered by Agricultural Cooperatives

The findings show that the majority (96.7%) of the respondents indicated that the cooperative they belong to is capable of facilitating unity and of improving group dynamics among the members. As such, the members are able to collaborate as they work together to achieve a common set of goals [52]. In addition, most (96.4%) of the smallholder farmers confirmed that the cooperatives had assisted them with conflict mediation. According to the respondents, the leaders are able to step up when conflict arises and try to understand members' viewpoints and provide a solution to the problem identified. As opined by [53], cooperative leaders play a mediating role in order to facilitate the attainment of organizational goals. The results also highlighted the fact that the majority (81.7%) of the smallholder farmers stated that the cooperatives had supported them by providing saving

services and technical advice and support. This result collaborates with the findings of [54]. Furthermore, the majority (75.0%) of the farmers indicated that their cooperatives support them in their agricultural enterprises by facilitating their access to inputs and farm labour. These findings concur with the assertion made by [55] that the cooperatives provide various types of services to their members, including the dissemination of market information, access to inputs and labour, credit and savings, and training.

On the contrary, however, a large number (90.0%) of the smallholder farmers have not been provided with adequate access to extension services [56]. The findings further indicate that the majority (87.5%) of the smallholder farmers stated that the cooperatives have not adequately assisted them as members with unionism issues. This implies that the members are of the opinion that the cooperative has not been able to put together a united front, as would be expected, to enable them to join with other unions and stakeholders in order to collectively assert their rights as farmers on issues that would improve their enterprises and livelihoods. Ref. [57] noted that cooperatives are expected to liaise with other established unions to ensure members' rights. Moreover, the majority (85.8%) of the smallholder farmers indicated that they had not received processing facilities and value-added support services from their cooperatives [58,59]. The results also reveal that the majority (78.3 %) of the smallholder farmers indicated that they had not received support in accessing adequate loan and credit facilities from their cooperatives [55]. The results also indicate that about three quarters (73.3%) of the smallholder farmers indicated that they had not received farm machinery support services from their cooperatives [52].

5.4. Perceived Effectiveness of Agricultural Cooperatives

The results of the study showed that the majority of the respondents indicated that the agricultural co-operatives were effective in providing assistance in conflict mediation as this was ranked first. This disagrees with the findings of [60] who reported that members of cooperatives in Vumengazi, KwaZulu-Natal were not able to deal with resolving their conflicts effectively. In addition, the facilitation of unity and group dynamics was the second-ranked effective support service rendered by cooperatives to smallholder farmers in the area. This implies that a high level of cohesiveness and synergy among the members is expected. As opined by [61], the nature of cohesiveness in a group is a reflection of bonding among group members and this is expected to result in effective execution of tasks, role commitment, adequate collaborative strategizing and actions that translates to group goals achievements. Moreover, the smallholder farmers indicated that the cooperatives in the area were able to effectively provide support to their members in accessing farm labour. As stated by [61], one of the main factors that led farmers to join cooperatives was to reduce inputs costs topmost among which is the cost of farm labour. In addition, respondents indicated that agricultural cooperatives in the area effectively provide technical advice and support to their members as this factor was ranked as the fourth. This collaborates the findings of [55], who postulated that cooperatives are expected to support members and disseminate information about potential markets, outbreaks of diseases and modern farming techniques that will ultimately improve their livelihoods.

On the other hand, the results further revealed that cooperatives were ineffective in providing access to extension services. This result concurs with the findings of [62] who stated that owing to being understaffed, extension and advisory service agencies face major constraints in disseminating appropriate information that will improve the livelihood of the smallholder farmers. The respondents also indicated that cooperatives in the area are ineffective in supporting them by facilitating their access to farm machinery. As opined by [52], this result implies that smallholder farmers are lacking a major benefit that comes with being a cooperative member; they find that they cannot benefit from the collaborative efforts of the cooperatives to reduce the cost of farm machinery that would normally help them to improve their scale of production and thus their livelihoods. Moreover, agricultural cooperatives were not effective in supporting their members in facilitating produce transport to market [59]. The results indicate that cooperatives were ineffective in

providing access to loan and credit facilities. As opined by [63], access to credit facilities is a notable felt need among smallholder farmers, and cooperatives are expected to be able to offer credit services to member farmers to ameliorate their production constraints. Agricultural cooperatives were also perceived not to be effective in providing access to value-added support and processing facilities [64].

5.5. Constraints Faced by Agricultural Cooperatives

The results showed that inadequate access to grants; donation, supports, and small resource base were viewed as topmost institutional constraints faced by cooperatives [7,54]. Inadequate linkages of the cooperatives with other stakeholders were another severe constraint, which implies that there is no proper linkage and synergy between the agricultural cooperatives and other stakeholders, such as extension agencies, trade unions, and other community-based organizations that are essential in providing support and services that would assist cooperative organizations in rendering more effective support services and in meeting the needs of their members. Inadequate monitoring and evaluation by relevant agencies corroborate the findings of [56,65], who stated that the local authorities, through the agricultural extension personnel from the Department of Agriculture are not adequately supporting and playing a supervisory role over cooperatives, which has led to the ineffectiveness and demise of the latter. Moreover, weak marketing arrangements and insufficient government assistance were both ranked the fifth and sixth most severe constraints. Collective marketing and bargaining are among the underlying reasons for the formation of farmer groups and cooperative organizations since adequate access of smallholder farmers to both informal and formal markets beyond the farm gate is a major challenge smallholder farmers face [46]. Moreover, lack of proper recognition by the government and other organizations was ranked seventh. The findings of the study also indicate that for agricultural cooperatives to thrive, governments and other stakeholders must recognize the existence of these groups, assist them to be formalized as appropriate, and synergize with them in channelling support meant for smallholder farmers in the area [66].

Furthermore, both irregularity of meetings [67] and land shortage [63] for members were ranked eighth and ninth as the most severe constraints, respectively. Unfavourable government policy and inadequate training for members were both ranked 10th and 11th severe constraints facing agricultural cooperatives in the area. According to [59], government policy is the vehicle that facilitates the effective functioning of agricultural cooperatives and agricultural development in the country. Inadequate training for members was also found to be a severe constraint pointed out by cooperative members and might be as a result of the lack of synergy and the poor linkage that currently seem to exist between extension organizations and cooperative organizations in the area. As opined in [68], and as would be expected, the lack of education and training prevents cooperative members from exploiting opportunities to develop action programmes that would facilitate the desired and sustainable changes.

5.6. Farmers' Socioeconomic Factors Influencing Perceived Effectiveness of Support Services

The results of the study on socio-economic factors influencing member farmers perceived effectiveness of the support services rendered by agricultural cooperatives using a multiple linear regression model showed that the coefficient of farm size (0.4824492) of the smallholder farmers was statistically significant at $p < 0.01$ and positively influenced the perceptions of the farmers in respect of the effectiveness of support services rendered by the cooperatives. This implies that with all things being equal, farmers with larger farms perceive the cooperatives as more effective. This is because the larger the farm size, the more likely it would be that the organization (cooperative) would benefit from greater opportunities and benefits it has to offer its members, and the higher the farm yield, the greater the economic benefits issuing from the farm. This is in consonance with [69] who stated that farm size has a positive influence on yield productivity and financial gains,

which can ultimately influence farmers' perceptions of support services rendered by agricultural cooperatives. Moreover, the coefficient of the major crop grown (1.207935) by the cooperative members was statistically significant ($p \leq 0.05$), and positively influenced the perceived effectiveness of the support services that they receive. This implies that a crop-specific production system (major crop grown) conducted by the members of the various cooperatives tends to influence their perceptions of the effectiveness of the support services received. The cooperatives in the area are a mix of crop-specific (commodity) and general agricultural cooperatives. Thus, farmer members belonging to crop specific cooperatives and mainly growing crops, which represent the focal commodity of their cooperatives, tend to perceive the support services that they receive as more effective than those farmers growing crops that are not the sole focal commodity of the cooperatives they belong to.

Furthermore, the level of education (2.687619) of the cooperative members had a significant ($p \leq 0.10$) and positive influence on the farmers' perceived effectiveness of the support services rendered by the cooperatives. This implies that the farmer members that are more educated tend to perceive the support services that they receive as members of their cooperatives as more effective than those do that are less educated. This might be because an increase in the level of education attained helps individuals to make more profound judgments and appraisals about issues that extend beyond their face value. As pointed out by [70], in a related survey that higher level of education enhances farmers' cognitive, problem-solving and decision-making prowess. The coefficient of farming experience (-0.8282949) was found to be statistically significant at $p \leq 0.01$ and negatively influenced the smallholder farmers' perception of the effectiveness of the support services provided by the cooperatives. This infers that respondents with a smaller number of years of farming experience tend to perceive the services rendered by the cooperatives as more effective than their older and more experienced member farmers. This might be because the less experienced farmers were also found to be younger in age and would thus, as members of the organization, tend to be more flexible, innovative, and to inject more energy into the diverse networks that could then translate into drawing increased production and marketing opportunities to their enterprises and greater prospects of better livelihoods. This is in consonance with [71] that stated that young farmers are agile, competitive, innovative, risk takers, and usually more motivated to build and develop their enterprises than older farmers.

The findings further showed that the coefficient of household size (-0.4399392) of the smallholder farmers was found to be statistically significant at $p < 0.10$, and negatively influenced the smallholder farmers' perception of the effectiveness of the support services rendered by the cooperatives. This result implies that an increase in the household size of the farmers leads to a decrease in the perceived effectiveness score. Members with large household sizes tend to perceive the effectiveness of the support services they receive from their cooperatives in a poor light. This is expected because members with large households have greater needs and responsibilities and more dependents to cater to and would, therefore, expect to receive maximum benefits and support from the cooperatives. This is in line with [71], which implies that a farmer with a large household has more responsibilities, and, in needing to attend to them, requires greater support to ensure an improved and sustainable livelihood.

5.7. Cooperative Institutional Factors Influencing Member's Perceived Effectiveness of Support Services Rendered

The results on cooperative institutional characteristics that influences smallholder member farmers' perception of the effectiveness of support services rendered by agricultural cooperatives revealed that satisfaction with the leadership process had a significant influence ($p \leq 0.10$), and positive coefficient (1.30321) on the farmers' perceived effectiveness of the support services rendered by the cooperatives. This implies that the higher the level of satisfaction of the members with the cooperative leadership, the more likely they

would tend to perceive the services rendered by the cooperative organization as effective. This is because effective leadership in any organization is usually expected to translate into the achievement of organizational goals and effective service delivery. This agrees with the findings of [13] who stated that with effective leadership, where leaders are transparent, committed, and sincerely serving, cooperative society members would generally be satisfied with their leaders and the services that they receive from the organization. Moreover, the coefficient of the number of cooperative members (-0.2686549) was found to be statistically significant at $p \leq 0.01$, and negatively influenced the farmers' perceived effectiveness of the support services rendered by the cooperatives. Thus, an increase in cooperative membership results in a decline in the members' perceived effectiveness of services rendered by the cooperative. This implies that cooperatives with larger memberships were perceived by smallholder farmer members to be less effective than those with smaller memberships. This might be because more members within the cooperative organization connote that the available benefits would have to be distributed among a larger number of individuals, thus reducing the proportionate benefit that might accrue to each member. This could be seen as a contrast to cooperatives with fewer members, where what they might have to share proportionately would then be much more sizeable. According to [72], an increase in cooperative membership sometimes results in a decrease in benefits because members are expected to share the opportunities accruing to the organization amongst themselves.

Finally, the coefficient of support services members received (2.205766) was seen to be significant ($p \leq 0.01$), and positively influenced the farmers' perceptions of the effectiveness of the services rendered by the cooperatives. This is consistent with a priori expectations, as the greater the support that members receive from cooperatives; the more likely they would be to perceive the effectiveness of the support services provided by the organization in a positive light. This concurs with the findings of [73], who asserted that farmer-based organizations (FBOs) are effective and efficient in supporting members by facilitating access to various support services, including access to credit, agricultural inputs, training, information dissemination about prices, and the market. Therefore, their perception toward the support services rendered by the FBOs is more likely to increase.

6. Conclusions, Recommendations, and Research Directions

This study assessed the perceived effectiveness of agricultural cooperatives in supporting smallholder farmers in South Africa using the Mpumalanga Province as a case study. The overall findings of this study generally reflect signs of relative inconsistencies on the part of agricultural cooperatives in effectively rendering adequate support services to their smallholder member farmers in the area of study. Although the agricultural cooperatives in the area rendered some level of support in the services which they render to their members, the smallholder farmers perceived their cooperatives as ineffectual in providing some key support services that could potentially improve their livelihoods. The agricultural cooperatives were said to be ineffective in that they did not adequately perform the following services: link their smallholder member farmers with agricultural extension agencies, provide access to farm machinery, facilitate produce transport to favourable markets, promote access to loan and credit facilities, to value-added support, and to processing facilities. The ineffectiveness of the agricultural cooperatives in supporting their members with these services may be due to some of the severe constraints that the study exposed. These include limited access to institutions providing financial support, poor linkages with relevant stakeholders, and oversights by the relevant agencies, thus resulting in general inadequacies. Furthermore, the study showed that farm size, the major crop grown/animal reared, level of education, household size, farming experience, number of cooperative members, support services received, and the level of satisfaction with the leadership process were significant socioeconomic and institutional factors that do indeed influence the smallholder farmers' perceptions of the effectiveness of the support services rendered by the agricultural cooperatives. Based on these conclusions, the following policy recommendations are made to increase the effectiveness of agricultural cooperatives,

as well as to ensure their sustainability and development in the area. First, in order for agricultural cooperatives to thrive, governments and other stakeholders must recognize the existence of these groups, assist them in becoming formalized as appropriate institutions, and synergize with them in channeling the support meant for smallholder farmers in the area. Additionally, government and other relevant stakeholders need to provide agricultural cooperatives with greater access to grants and donations that will help improve the resource base of the cooperatives so that they will be able to adequately support their members with funds that will enhance the entrepreneurial skills and livelihoods of their members. Furthermore, policy aimed at strengthening the respective linkages and synergies between the agricultural cooperatives and other stakeholders, such as extension agencies, trade unions, and other community-based organizations that are essential for providing support and services that will enable cooperative organizations to render more effective support services and meet the needs of their members should be promoted.

The study focused on mainly on smallholder farmers that were still current members of agricultural cooperatives, and it was out of the scope of this study to sample smallholder farmers who are non-members or have left such cooperatives for various probable reasons. Furthermore, the findings from this study were generated from data elicited specifically from smallholder farmers who are current members of agricultural cooperatives in Gert Sibande, Mpumalanga, South Africa. The study is also limited by the assumption that all information obtained from the respondents is correct. Future research can also be carried out to empirically investigate the linkages between agricultural extension services and other rural development stakeholders in supporting agricultural co-operatives and other community-based organizations in the study area so that they can effectively fulfil their role of supporting smallholder farmer's needs.

Author Contributions: Conceptualization—P.H.N. and O.D.O.; Methodology—P.H.N. and O.D.O.; Writing original draft—P.H.N.; Review and editing—O.D.O. and P.H.N. All authors have read and agreed to the published version. All authors have read and agreed to the published version of the manuscript.

Funding: P.H.N. received research funding from the Department of Higher Education and Training (DHET) South Africa through the Nurturing Emerging Scholars programme (NESP).

Institutional Review Board Statement: This research was approved by the University of Mpumalanga Research Ethics Committee with certificate number UMP/Nyawo/MAgric/2021.

Informed Consent Statement: The authors adhered to the protocols outlined in the Declaration of Helsinki for human research. Voluntary participation was ensured, and a signed informed consent document was obtained before enumerators interviewed the respondents to complete the questionnaire.

Data Availability Statement: The data will be provided upon request from the corresponding author.

Acknowledgments: The authors acknowledge and thank the University of Mpumalanga for providing necessary support and the conducive environment to carry out this research. Other institutions such as DHET, Department of Agriculture, and Department of Economic Development and Tourism including all cooperative member farmers are all acknowledged and appreciated.

Conflicts of Interest: No conflict of interest declared by authors.

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