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Women Farmers Empowerment: The Role of Cooperative Societies in Kwara State, Nigeria

Kareem, O.W.[1], Daudu, A.K.[2], Dolapo, T.A.[3] and Siyanbola, F.I.[4]

[1-4]Department of Agricultural Extension and Rural Development, Faculty of Agriculture, P.M.B. 1515, University of Ilorin, Ilorin, Nigeria.

[1]E-mail: kareem.ow@unilorin.edu.ng

Abstract. Cooperatives have the potential to be an important instrument for women to carry out social transformation, especially in rural areas. The study, however, investigates the role of cooperative societies in women empowerment in Kwara State, Nigeria. A Multistage random sampling technique was used to select 219 respondents for the study. A Well-structured questionnaire was used to elicit information from the respondents and the data obtained were analysed through descriptive and inferential statistics. The results of the findings showed that respondents were in their productive age with a mean age of 42 years. The majority (90.0%) of the respondents were married with a household size of 8 dependants. Higher percentage (93.0%) of the respondents were educated with primary education (57.5%) as the highest educational level attained by the respondents. Respondents were majorly practising farmers with 14 years of farming experience and earning an average of ₦243,741.1 per annum. The cooperative societies empowered women farmers mostly by provision of advisory and advocacy services (92.2%), collective processing of farm produce (90.9%) and skill acquisition programmes (90.4%). Women farmers participated more in the collective processing of farm produce (M.S= 4.16). The level of participation of women in empowerment programmes was moderate (94.5%, M= 2.76) with a higher level of empowerment in psychological aspects (96.0%; M= 3.96) than economic (97.7%, M= 2.38) and socio-cultural (90.9%, M= 2.89) dimensions. Women farmers were constrained mainly with limited access to credit (M= 2.79) and limited funds (M= 2.53) to deliver empowerment programmes. There is a positive and significant relationship ($p<0.05$) between age, farming experience, household size, years of membership in cooperatives and the level of participation. The PPMC results also show a significant correlation ($r = 0.67$, $p< 0.05$) between levels of participation and empowerment. The study therefore recommended that the government should make adequate credit facilities and funds available to cooperative societies to roll out more empowerment programmes to women farmers for sustainable livelihoods and food security.

Keywords. Empowerment, Women farmers, Cooperative societies, Transformation, Indicators.

1. Introduction

Cooperatives allow the collection of small amounts of money into larger entities which are used in collaborative projects that secure their member's economic and social needs; whether it is to achieve their ambition, to obtain products and services they need or to engage in economic activity that is based on values of social solidarity [1]. Cooperative societies are usually formed by groups of people who have a common economic goal and seek to improve their economic status. Cooperative Societies

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as an informal source of finance have serious setbacks. One of which is the inadequate amount of capital that can be raised from the members of the cooperative society. Some factors that have militated against the efficiency of the cooperative sector as an economic tool of microfinance, job creation, poverty eradication and wealth creation are; bad leadership, lack of mutual training and exposure to modern management techniques, ambiguous government role in the cooperative movement, as well as the challenges of the changing world [2]. Cooperatives are regarded as one of the main institutional machinery for empowering the economically weak members of society by promoting economic and social development because they are commercial organizations that follow a broader set of values than those associated purely with the profit motive.

The agricultural cooperative is a vital foundation that can help smallholder farmers overcome the constraints that hinder them from taking advantage of their business as it empowers economically weak farmers by enhancing their collective bargaining power and negotiation ability thereby reducing the risk that they face in the market [3]. In developing countries, agricultural cooperatives have a great deal of potential to help economically disadvantaged farmers raise their collective bargaining power, thereby increasing their income. Member's goods benefit from the feedback they offer, as well as the market prospects they open up for them. However, it is common in many poor developing countries for women to be left out of such gatherings [4].

Women form the majority in rural areas and are involved at all stages of agricultural enterprises, suggesting that the position of women in agricultural development cannot be over-emphasized. Despite the essential economic and social roles performed by women, they have significantly less access to financial, physical and social assets than men do, fewer opportunities to improve their knowledge and skills and less voice in public decision-making as they are believed to be vulnerable and economically weak members of the society. The productivity level of women is systematically lower than that of men yet they play a major role in the socio-economic development of societies and are highly engaged in agriculture, small-scale industries and other primary sectors in rural areas [5]. Co-operative societies play an important role in facilitating women's empowerment by creating opportunities for women to help themselves by addressing both economic and socio-cultural factors that perpetuate gender discrimination and providing employment opportunities through direct and indirect employment. Empowerment of women is essential because in most cases women are responsible for their children as such, empowering women is empowering the society at large [6]. Apart from the economic and socio-cultural factors affecting women in developing countries, they are also confronted by daunting constraints such as misconceptions about the traditional role of women in the society being their reproductive and domestic responsibilities which affects their active participation in cooperatives. Gender gaps in agriculture have been linked to gender differential access to and control over assets, information, labour and inputs, and higher child dependency ratio among women farmers [7]. It is against this backdrop that the study sought to investigate the role of cooperative societies in women farmers' empowerment in Kwara State, Nigeria.

2. Materials and Methods

The study was conducted in Kwara state, North central Nigeria which is popularly known as the gateway between the northern and southern parts of Nigeria. It shares boundaries with Osun, Oyo, Ondo, Kogi, Niger and Ekiti state. Kwara shares an international boundary with the Republic of Benin in the West. Kwara state has a total population of 2,371,089 made up of 1,220,581 males and 1,150,508 females at the 2006 census. The population of Kwara state is made up of mainly Yoruba, Nupe, Fulani and Baruba tribes. Kwara state has a total land area of 36,825 km^2 which is located between latitude $7^o45'$N and longitude $2^o30'$E and $6^o25'$E. There are a total of 1258 rural communities in Kwara state with 90% of the rural communities being farmers. Kwara state comprises 16 local Government areas which are Asa, Baruten, Edu, Ekiti, Ifelodun, Ilorin East, Ilorin South, Ilorin West, Irepodun, Isin, Kaiama, Moro, Offa, Oke Ero, Oyun and Pategi. Based on agro-ecological and cultural characteristics, the state is divided into four agricultural zones – zones A, B, C and D, by Kwara State Agricultural Development Project (KWADP) in consonance with ecological characteristics, cultural practices and for the projects' administrative convenience. The population of the study comprised all women farmers who are members of agricultural cooperative societies in Kwara state, Nigeria.

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The climatic pattern, vegetation and fertile soil make the state suitable for the cultivation of a wide range of food and tree crops. The major food crops planted are cassava, yam, maize, rice, soya beans, cowpea, guinea corn and millet. The state has over 185,000 farm families with an average of 6-7 people per farm family. There are over 400 registered farmer groups in the state (Kwara NG-Cares, 2021) [8] majority of which are economic interest groups.

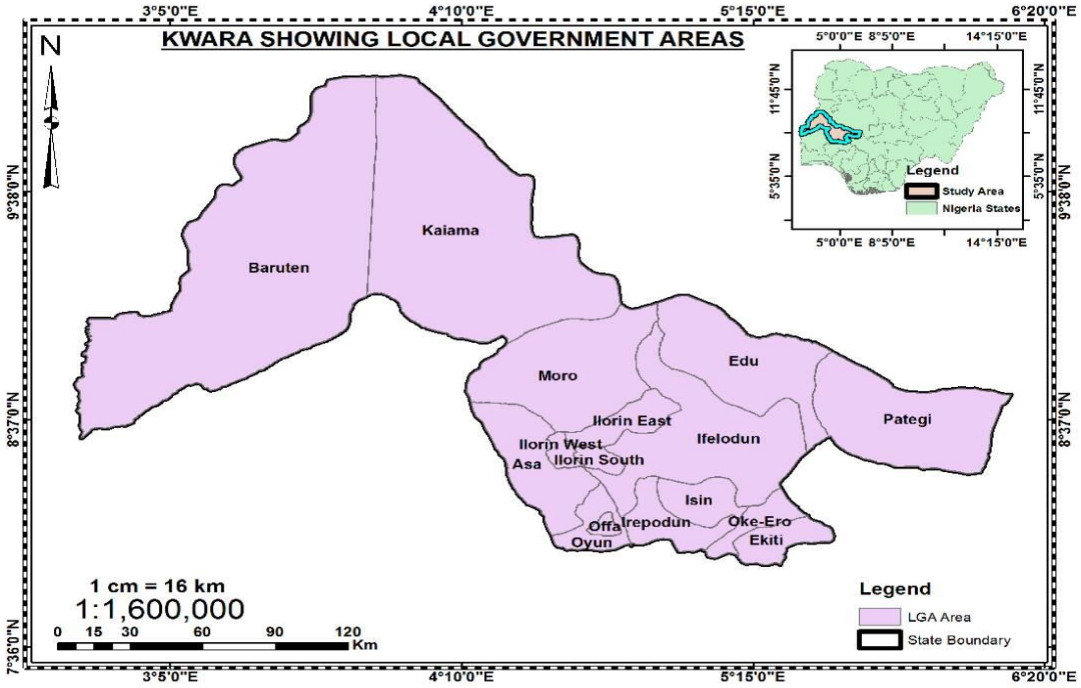

Figure 1. Map of Kwara State showing the Local Government Areas.

A two-stage random sampling procedure was used to select respondents for the study. The list of registered agricultural cooperative societies and their members collected from the Kwara Agricultural Development Program (KWADP) was used as the sampling frame. In the first stage, 10 per cent of the 190 registered agricultural cooperative societies across the four agroecological zones in the state were randomly selected to give 19 agricultural cooperative societies. In the second stage, 40 per cent of female members in each group were randomly selected to give 219 female members of the agricultural cooperative. The selection is presented in Table 1 as follows.

Table 1. Sampling Procedure and Sample Size.

Agricultural Cooperative Societies	10 % Random Selection	40 % Random Selection of Female Members	Sample Size
190	Iwo Fadama Comm. CS LTD Iwo Isin	30(12)	219
	Agbeloba Oro	28(11)	
	Owolaranfe Women CS Oke Oyi	32(13)	
	Boluyo Farmers MCS	25(10)	
	Agbelere Bode Saadu	19(8)	
	Asejere Shao	22(9)	

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Agricultural Cooperative Societies	10 % Random Selection	40 % Random Selection of Female Members	Sample Size
	Havilah Women Farmers MCS	35(14)	
	Ifelodun Maize Growers CS	30(12)	
	Agbelere Ajase Ipo	30(12)	
	Agbeloba Oko Erin	29(12)	
	Ogooluwa Farmers CS	30(12)	
	Amuludun Women Okeonigbin Fadama Resource Users CS LTD	33(13)	
	Ilesha Fadama Community CS LTD	24(10)	
	Ifelodun Farmers CS	38 (15)	
	Irepodun CS	25 (10)	
	Okuta-Ten Fadama Users CS	35 (14)	
	Agbeloba Iponrin	25(10)	
	Irewolede Oro Fadama comm. CS LTD	20(8)	
	Omolere	36(14)	

Source: KWADP [10].

The dependent variable for this study is women's empowerment. This variable was measured using the Women Empowerment Index (WEI) developed by [11]. Indicators which correctly measure what constitutes women empowerment in the study were carefully itemized based on available literature on the socio, economic, cultural and political status of the state. Three broad categories of indicators including cultural, economic and psychological indices of empowerment were identified. For each of the indicators, suitable constructs were generated which when pulled together, accurately depict the indicators. The summary of the indicators and individual construct that was used for the measurement is provided as follows:

2.1. Economic Indicators

- Control over income
- Relative contribution to family support
- Access to productive resources
- Decision-making over productive resources
- Access to cash
- Access to assets
- Access to information and technology
- Access to financial services

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2.2. Socio-Cultural Indicators

- Freedom of movement
- Discrimination against the girl child
- Commitment to the education of girl children
- Input to family decision-making
- Input to decision on childbearing
- Input to decisions on other sexual-related issues
- Control over marriage timing
- Choice of spouse
- Freedom from domestic violence

2.3. Psychological Indicators

- Women's level of self-esteem
- Self-efficacy
- Psychological well-being
- Sense of inclusion
- Sense of entitlement
- Articulateness and confidence in speaking with authorities

The individual ratings of the respondents on each construct were aggregated and a mean score was generated for each indicator. The indicators were weighted equally, and so were the constructs within each indicator domain following [11]. The overall indicators were thereafter derived from the average of the value obtained for the three indicators. The resultant index ranged from zero and one where higher values indicated greater empowerment. The indexes were categorized into 3 for ease of reference as follows:
0.00- 0.33= low level of empowerment
0.34 - 0.66= moderate level of empowerment
0.67 – 1.00= high level of empowerment

2.4. Data Analysis

The data collected was analyzed using descriptive statistical tools such as frequency counts, percentages, mean score and ranking while Multiple Regression and Pearson Product Moment Correlation analysis were used to test the hypotheses.

3. Results and Discussion

3.1. Socio-Economic Characteristics of the Respondents

The result in Table 2 shows that 89.5% of the respondents were married, while less than 20% of the respondents were single, divorced or widowed. The mean age of the respondents was 42.3 (SD=9.1). This implies that the majority of the women were in their productive years, and desired to boost their source of income generation and their household welfare. A study by [12], reported that the majority of the women who are members of a cooperative society are still in their active and productive stage with an average age range of 43 years. The result indicates that 57.5% of the respondents had primary education, 28.8% had secondary education and 6.4% had tertiary education. It was established that most of the respondents were educated. The finding agrees with the study of [13], which shows that the majority of the respondents in their study had a first school leaving certificate (FSLC), as their highest educational qualification. The respondents had farming (64.3%) as their primary occupation and 6.6% were artisans with an average income of ₦243,741. This finding contradicts [14], who revealed an average annual income of ₦308,060.00 for women in cooperative societies. Out of 219 respondents, 58.0% had between 11 to 20 years of farming experience with an average of 14 years (SD= 5.8) in farming. Thus, farming experience increases their knowledge and experience in farm practices proportionately. Above average (56.6%) of the respondents owned their farmlands with an

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average farm size of 2.4 acres (SD= 1.2). That is, size of farmland influenced their active participation in farming activities.

Table 2. Distribution of Respondents by Socio-economic Characteristics (n=219).

Variables	Frequency	Percentage (%)	Mean	SD
Marital Status				
Single	5	2.3		
Married	196	89.5		
Divorced	11	5.0		
Widowed	7	3.2		
Age (Years)			42.3	9.1
≤ 30	30	13.7		
31-40	59	26.9		
41-50	93	42.5		
Above 50	37	16.9		
Level of Education				
No Formal Education	16	7.3		
Primary Education	126	57.5		
Secondary Education	63	28.8		
Tertiary Education	14	6.4		
Primary Occupation				
Farmers	141	64.3		
Traders	49	22.1		
Artisans	15	6.6		
Civil Servants	14	7.0		
Annual Income (₦)			243,741.1	104,307.7
≤ 150000	54	24.7		
150001-300000	106	48.4		
300001-450000	31	14.2		
450001-600000	18	8.2		
Above 600000	10	4.5		
Farming Experience (Years)			13.9	5.8
≤ 10	69	31.5		
11-20	127	58.0		
21-30	19	8.7		
Above 30	4	1.8		
Farm Size (Acres)			2.4	1.2
1-3 176 80.4				
Above 3	43	19.6		
Mode of Land Ownership				
Owned	124	56.6		
Rented	57	26.0		
Leased	38	17.4		
Household Size (Persons)			8.4	3.9
≤ 5	52	23.7		
6-10	94	42.9		
11-15	66	30.1		
Above 15	7	3.2		
Age of Cooperatives (Years)			14.3	5.6
≤ 5	11	5.0		
6-10	57	26.0		

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Variables	Frequency	Percentage (%)	Mean	SD
11-15	46	21.0		
16-20	79	36.1		
Above 20	26	11.9		
Years of Membership in Cooperatives (Years)			11.0	4.7
≤ 5	16	7.3		
6-10	96	43.8		
11-15	67	30.6		
Above 15	40	18.3		
Cooperative Size (Persons)			22.6	4.4
≤ 20	78	35.6		
21-25	81	37.0		
Above 25	60	27.4		
Frequency of Meeting				
Weekly	132	60.3		
Monthly	53	24.2		
Quarterly	34	15.5		
Distance to Place of Meeting (km)	3.3	1.6		
0-4	162	74.0		
5-9	57	26.0		
Above 9	0	.0		

Source: Field Survey, 2023

3.2. Empowerment Programmes Provided for Women by Agricultural Cooperatives

Table 3 shows the result of the empowerment programme provided by agricultural cooperatives to women in the study area. Advisory and advocacy services (92.2%) was the highest-rated available programme to the respondents. This is followed by collective processing of farm produce (90.9%), then skill acquisition programmes (90.4%) and leadership training and adult education (72.6%). This finding is said to be congruent with the results of [15], who stressed that women joined cooperatives to have access to the empowerment activities of the cooperative societies such as advisory services, skill acquisition programmes, vocational training and adult education. However, low positive responses were recorded on some empowerment programs, such as credit service delivery to members (14.6%), savings mobilization and supply of members' household and consumer goods (13.7%), health care service delivery (8.2%) and creation of job opportunities for members (6.4%). Despite being members of cooperatives, the respondents had limited access to loans from cooperative societies and agricultural banks, while minimal risk level was not enjoyed by women in the study area. Masabo [16], has different opinion that cooperatives contribute to growth by creating a significant number of jobs and supplying food products, housing and financial services.

Table 3. Empowerment Programmes Provided by Agricultural Cooperatives for Women in the Study Area (n=219).

Empowerment Programmes	Positive Responses	Percentage (%)
Advisory and advocacy services	202	92.2
Collective processing of farm produce	199	90.9
Skill acquisition programmes	198	90.4
Leadership training and adult education	159	72.6
Credit service delivery to members	32	14.6
Savings mobilization	30	13.7
Supply of members' household and consumer goods	30	13.7
Healthcare service delivery	18	8.2

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Empowerment Programmes	Positive Responses	Percentage (%)
Creation of job opportunities for members	14	6.4

Source: Field Survey. 2023

3.3. Participation of Women in the Empowerment Programmes

The result in Table 4 reveals the level of participation of women in the empowerment programmes provided by agricultural cooperatives. It indicates that the programme with the highest mean was the collective processing of farm produce (M.S=4.16). Several literatures have worked on women for their active role in food security and marketing among various rural households. Advisory and advocacy services (M.S=3.47), leadership training and adult education (M.S=3.45) and skill acquisition programmes (M.S=3.42) were ranked 2nd, 3rd and 4th respectively. Other programmes in which the respondents participated included the supply of members household and consumer goods (M.S=2.38), job opportunities (M.S=2.24), savings mobilization (M.S=2.35), health care service delivery (M.S=2.02) and credit service delivery to members (M.S=1.42). The aforementioned programmes, however, recorded low participation maybe because the programmes were not readily available to women in the study area. This corroborates [17], who reported that rural women play critical roles in the provision of food and economic security for their households and communities. Such recognition has not translated to policies and programmes particularly among cooperative sub-sectors that are promoting women's meaningful participation in their activities [12].

Table 4. Participation of Women in the Empowerment Programmes.

Empowerment Programmes	Never		Rarely		Sometimes		Often		Always		M.S
	F	(%)	F	(%)	F	(%)	F	(%)	F	(%)	
Collective processing of farm produce	8	(3.7)	9	(4.1)	32	(14.6)	60	(27.4)	110	(50.2)	4.16
Advisory and advocacy services	7	(3.2)	22	(10.0)	60	(27.4)	122	(55.7)	8	(3.7)	3.47
Leadership training and adult education	6	(2.7)	39	(17.8)	38	(17.4)	122	(55.7)	14	(6.4)	3.45
Skill acquisition programmes	7	(3.2)	40	(18.3)	31	(14.2)	137	(62.6)	4	(1.8)	3.42
Supply of members' household and consumer goods	51	(23.3)	48	(21.9)	109	(49.8)	7	(3.2)	4	(1.8)	2.38
Job opportunities	66	(30.1)	72	(32.9)	56	(25.6)	13	(5.9)	12	(5.5)	2.24
Savings mobilization	57	(26.0)	50	(22.8)	97	(44.3)	8	(3.7)	7	(3.2)	2.35
Healthcare service delivery	82	(37.4)	87	(39.7)	27	(12.3)	9	(4.1)	14	(6.4)	2.02
Credit service delivery to members	162	(74.0)	33	(15.1)	16	(7.3)	6	(2.7)	2	(.9)	1.42

Source: Field Survey, 2023 M.S = Mean Score

3.4. Level of Women Participation in the Empowerment Programmes

Table 5 shows that the level of participation of women in empowerment programmes was moderate with a mean score of 2.76 and a standard deviation of 2.99. The result indicates that a moderate level of participation was observed for the majority (94.5%) of the respondents. That is, agricultural cooperatives empowered women moderately in the study area. Furthermore, 5.5% had a very high level of participation. The results suggest that a moderate level of participation was observed for the majority of the respondents. Sahel [18], reported that rural women participate more in empowerment and development activities, as they consist of about 60-80% of the labour force. [19], were of the opinion that women's participation in agricultural cooperative activities significantly empowers them.

Table 5. Categorization by Level of Participation of Women in the Empowerment Programmes Provided by Agricultural Cooperatives (n=219).

Level of Participation		Frequency	Percentage	Min	Max	Mean	SD
Low	0-1.66	0	.0				
Moderate	1.67-3.32	207	94.5	1.67	3.56	2.76	2.99
High	3.33-5.00	12	5.5				
	Total	219	100.0				

Source: Field Survey, 2023 Min = Minimum, Max = Maximum, SD = Standard Deviation

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3.5. Indicators of Women's Empowerment

3.5.1. Economic Indicators

The empowerment of women by agricultural cooperatives using the economic indicators in Table 6 reveals that the majority of the respondents joined the cooperatives through relative/family contribution (M.S=3.23). The results of economic indicators are as follows; control over income (M.S=3.19), access to information and technology (M.S=2.98) and decision-making over productive resources (M.S=2.24) which were ranked 2nd, 3rd and 4th respectively. This finding does not support the opinion of Anderson et al., (2021) who asserted that women have less right to the use of commonwealth they made along with their husbands and have limited role in decision-making on key resources. However, respondents indicated low access to productive resources (M.S=2.00), low access to agricultural assets (M.S=1.84), low access to cash (M.S=1.80) and low access to financial services (M.S=1.80). This could be attributed to the fact that many financial institutions are unwilling to provide credit facilities to resource-poor women farmers due to the high transactional costs that are involved in servicing small clients living in remote areas [20]. Credit availability and accessibility are some of the factors influencing women's economic empowerment. Access to financing, primarily to begin an economic empowerment activity, is one of the most significant challenges facing rural women today [21,22]. Women generally have fewer credit prospects than men for a variety of reasons, including a lack of collateral and an unwillingness to accept household assets as collateral [23]. Thus, access to cash is hypothesized to affect rural women's economic empowerment positively.

Table 6. Economic Indicators of Women Empowerment (n=219).

Economic Indicators	Never		Rarely		Sometimes		Often		Always		M.S	Rank
	F	(%)	F	(%)	F	(%)	F	(%)	F	(%)		
Relative family contribution	7	(3.2)	51	(23.3)	61	(27.9)	85	(38.8)	15	(6.8)	3.23	1st
I have control over my income	5	(2.3)	55	(25.1)	61	(27.9)	90	(41.1)	8	(3.7)	3.19	2nd
Access to information and technology	10	(4.6)	62	(28.3)	74	(33.8)	69	(31.5)	4	(1.8)	2.98	3rd
Decision-making over productive resources	53	(24.2)	75	(34.2)	81	(37.0)	5	(2.3)	5	(2.3)	2.24	4th
Access to productive resources	72	(32.9)	93	(42.5)	42	(19.2)	7	(3.2)	5	(2.3)	2.00	5th
Access to agricultural asset	82	(37.4)	104	(47.5)	24	(11.0)	4	(1.8)	5	(2.3)	1.84	6th
Access to cash	95	(43.4)	85	(38.8)	30	(13.7)	6	(2.7)	3	(1.4)	1.80	7th
Access to financial services	89	(40.6)	101	(46.1)	25	(11.4)	4	(1.8)	0	(.0)	1.74	8th

Source: Field Survey, 2023 M.S = Mean Score

3.5.2. Categorisation of Economic Indicators

Table 7 shows that the level of economic indicators in women empowerment by agricultural cooperatives was moderate with the majority (97.7%) of the respondents while 1.8% and 0.5% had high and low levels of empowerment based on economic indicators. The mean level of empowerment on the economic indicators was 2.38 with a standard deviation of 0.34. This finding is in tandem with the studies of [24], who reported that cooperatives perform economic functions such as providing access to information and technology, provision of access to productive resources and processing and value addition of farm inputs.

Table 7. Categorization of Economic Indicators in Women Empowerment (n=219).

Level of Empowerment		Frequency	Percentage	Min	Max	Mean	SD
Low	0-1.66	1	.5				
Moderate	1.67-3.32	214	97.7	1.63	3.50	2.38	.335
High	3.33-5.00	4	1.8				
	Total	219	100.0				

Source: Field Survey, 2023 Min = Minimum, Max = Maximum, SD = Standard Deviation

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3.5.3. Socio-Cultural Indicators

Table 8 reveals the socio-cultural indicators of women empowerment in the study area. The majority of the respondents had freedom of movement (M.S=4.32) and were committed to the education of girl children (M.S=4.11). The implication is that, educating girl children is found to be an effective indicator to empower women so that they can take control of their lives and choices to improve their lives as well as their families. The finding of Choudhry et al.[25] which states that education has a positive relationship with women empowerment is in consonant with this result. Choice of spouse (M.S=3.00) and input to a decision on childbearing (M.S=2.95) were ranked 3rd and 4th. It means that women were empowered in making life decisions.

Furthermore, the respondents recorded more positive responses on freedom from domestic violence (M.S=2.90), input to family decisions (M.S=2.88) and input to decisions on other sexual-related issues (M.S=2.35). However, respondents rarely had control over marriage timing (M.S=1.84) and rarely discriminated against the girl child (M.S=1.66). This finding is contrary to the opinion of [25], who concluded that culturally based restrictions having implications on women's mobility are associated with marital bonds.

Table 8. Socio-cultural Indicators of Women Empowerment (n=219).

	Never		Rarely		Sometimes		Often		Always		M.S	Rank
	F	(%)	F	(%)	F	(%)	F	(%)	F	(%)		
Freedom of movement	4	(1.8)	4	(1.8)	10	(4.6)	102	(46.6)	99	(45.2)	4.32	1st
Commitment to the education of girl children	0	(.0)	0	(.0)	59	(26.9)	77	(35.2)	83	(37.9)	4.11	2nd
Choice of spouse	1	(.5)	79	(36.1)	65	(29.7)	68	(31.1)	6	(2.7)	3.00	3rd
Input to decision on childbearing	17	(7.8)	64	(29.2)	69	(31.5)	52	(23.7)	17	(7.8)	2.95	4th
Freedom from domestic violence	25	(11.4)	41	(18.7)	92	(42.0)	52	(23.7)	9	(4.1)	2.90	5th
Input to family decision	16	(7.3)	71	(32.4)	70	(32.0)	47	(21.5)	15	(6.8)	2.88	6th
Input to decisions on other sexual-related issues	32	(14.6)	90	(41.1)	89	(40.6)	5	(2.3)	3	(1.4)	2.35	7th
Do you have control over marriage timing	96	(43.8)	78	(35.6)	34	(15.5)	5	(2.3)	6	(2.7)	1.84	8th
Discrimination against the girl child	106	(48.4)	97	(44.3)	5	(2.3)	6	(2.7)	5	(2.3)	1.66	9th

Source: Field Survey, 2023 M.S = Mean Score

3.5.4. Categorisation of Socio-Cultural Indicators

The result in Table 9 indicates that the level of socio-cultural indicators of women empowerment by agricultural cooperatives was moderate (90.9%). The mean level of empowerment on socio-cultural indicators was 2.89 with a standard deviation of 0.29. Ezeokafor et al.[26], also reported that cooperatives promote socio-cultural activities significantly among members and this enhances members' social welfare.

Table 9. Categorization of Socio-cultural Indicators in Women Empowerment (n=219).

Level of Empowerment	Frequency	Per cent	Min	Max	Mean	SD
Low	0-1.66	0	0			
Moderate	1.67-3.32	199	90.9	2.11	3.56	2.89	.285
High	3.33-5.00	20	9.1			
	Total	219	100.0			

Source: Field Survey, 2023 Min = Minimum, Max = Maximum, SD = Standard Deviation

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3.6. Psychological Indicators

Table 10 enumerates the psychological indicators of women's empowerment. The result reveals that the respondents had a high level of self-esteem (M.S=4.72) and a good sense of inclusion (M.S=4.59). This correlates with the study of [27], which opined that highly educated women have more chances for work and economic independence, higher self-esteem, self-efficacy, and empowerment. Articulate and confidence in speaking with authorities (M.S=4.42), control on psychological well-being (M.S=3.97), and self-efficacy (M.S=3.93) ranked 3rd, 4th and 5th respectively. Respondents possessed a low sense of entitlement (M.S=2.16).

Table 10. Psychological Indicators of Women Empowerment (n=219).

	Never		Rarely		Sometimes		Often		Always		M.S	Rank
	F	(%)	F	(%)	F	(%)	F	(%)	F	(%)		
Self-esteem	0	(.0)	2	(.9)	1	(.5)	54	(24.7)	162	(74.0)	4.72	1st
Sense of inclusion	0	(.0)	0	(.0)	0	(.0)	89	(40.6)	130	(59.4)	4.59	2nd
Psychological wellbeing	5	(2.3)	10	(4.6)	37	(16.9)	101	(46.1)	66	(30.1)	3.97	4th
Sense of entitlement	72	(32.9)	69	(31.5)	58	(26.5)	11	(5.0)	9	(4.1)	2.16	6th
Self- efficacy	9	(4.1)	7	(3.2)	39	(17.8)	100	(45.7)	64	(29.2)	3.93	5th
Articulate and confident in speaking with authorities	0	(.0)	0	(.0)	10	(4.6)	108	(49.3)	101	(46.1)	4.42	3rd

Source: Field Survey, 2023 M.S = Mean Score

3.6.1. Categorisation of Psychological Indicators

The result in Table 11 revealed the level of psychological indicators of women empowerment by the cooperatives to be high with the majority (96.3%) of the respondents. The mean level of women empowerment based on psychological indicators was 3.96 with a standard deviation of 0.32. Thus, the level of psychological indicator of women empowerment by cooperatives was high with the majority of the respondents. [16] also agreed that fellow members of cooperatives could provide powerful support for each other by encouraging and augmenting individual self-esteem.

Table 11. Categorization of Psychological Indicators in Women Empowerment (n=219).

Level of Empowerment		Frequency	Percentage	Min	Max	Mean	SD
Low	0-1.66	0	.0				
Moderate	1.67-3.32	8	3.7	3.00	4.67	3.96	.320
High	3.33-5.00	211	96.3				
	Total	219	100.0				

Source: Field Survey, 2023 Min = Minimum, Max = Maximum, SD = Standard Deviation

3.7. Level of Women Empowerment in Cooperative Activities

Table 12 shows the level of women empowerment by agricultural cooperatives. After all the indices were aggregated, the majority (63.9%) of the respondents had a moderate empowerment score of between 0.34 - 0.66, followed by a high empowerment level of between 0.67 – 1.00 (35.6%). This corroborates [19], who stated that women's participation in agricultural cooperative activities significantly exposes them to empowerment programmes.

Table 12. Level of Women's Empowerment in Cooperative Activities.

Level of Empowerment		F	(%)	Mean	SD
Low Level of Empowerment	0.0 - 0.33	1	0.5		
Moderate Level of Empowerment	0.34 - 0.66	140	63.9	0.64	0.21
High Level of Empowerment	0.67 - 1.00	78	35.6		
		219	100.0		

Source: Field Survey, 2023 Min = Minimum, Max = Maximum, SD = Standard Deviation

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3.8. Constraints to Women's Empowerment in Agricultural Cooperatives

The result of the severity of the constraints on women's empowerment by agricultural cooperatives is shown in Table 13. The most severe constraint observed was limited access to credit (M.S=2.79). This implies that the financial obligations of members of cooperatives have to be carried out to increase active participation. This aligns with the findings of [6], who reported that financial constraint is the most severe constraint limiting optimum delivery of economic empowerment to women in cooperative societies. Limited funds to deliver empowerment programmes (M.S=2.53) ranked second in severity and this is associated with financial incapacitation to acquire certain productive resources. Lack of control and ownership of resources (M.S=2.39), low literacy level among members (M.S=2.34) and lack of facilitators for empowerment programmes (M.S=2.27) were rated 3rd, 4th and 5th respectively. The result of the severity of the constraints on women's empowerment by agricultural cooperatives indicates that limited access to credit was the most severe constraint. This implies that the financial obligations of members of cooperatives have to be carried out to increase their active participation. This agrees with the findings of [6], who reported that financial constraint is the most severe constraint limiting optimum delivery of economic empowerment to women in cooperative societies.

Table 13. Constraints to Women's Empowerment in Agricultural Cooperatives.

	NS		S		VS		M.S	Rank
	F	(%)	F	(%)	F	(%)		
Limited access to credit	13	(5.9)	20	(9.1)	186	(84.9)	2.79	1st
Socio-cultural barriers such as discrimination against women	121	(55.3)	86	(39.3)	12	(5.5)	1.50	13th
Low literacy level among members	36	(16.4)	72	(32.9)	111	(50.7)	2.34	4th
Limited funds to deliver empowerment programmes	15	(6.8)	73	(33.3)	131	(59.8)	2.53	2nd
Limited access to information and resources	57	(26.0)	95	(43.4)	67	(30.6)	2.05	8th
Limited training and education	88	(40.2)	106	(48.4)	25	(11.4)	1.71	11th
Lack of control and ownership of resources	35	(16.0)	63	(28.8)	121	(55.3)	2.39	3rd
Inactive participation among women co-operators	51	(23.3)	84	(38.4)	84	(38.4)	2.15	7th
Lack of facilitators for empowerment programmes	32	(14.6)	95	(43.4)	92	(42.0)	2.27	5th
Long distance to the meeting venue	113	(51.6)	78	(35.6)	28	(12.8)	1.61	12th
Lack of representation	82	(37.4)	90	(41.1)	47	(21.5)	1.84	10th
Religious beliefs	152	(69.4)	58	(26.5)	9	(4.1)	1.35	15th
Dishonesty, greed and corruption among leaders of the cooperative	140	(63.9)	53	(24.2)	26	(11.9)	1.48	14th
Lack of felt need to participate in the empowerment programmes	151	(68.9)	64	(29.2)	4	(1.8)	1.33	16th
Poor infrastructure that facilitates empowerment among women	85	(38.8)	77	(35.2)	57	(26.0)	1.87	9th
Poor extension service	52	(23.7)	89	(40.6)	78	(35.6)	2.12	6th

Source: Field Survey, 2023 M.S = Mean Score, N.S = Not Severe, S = Severe, V.S = Very Severe

3.9. Results of Tested Hypotheses

H_{01}: There is no significant relationship between some selected socio-economic characteristics of the respondents and the level of participation of female members of agricultural cooperative society.

3.10. Results of Multiple Regression Analysis Showing the Determinants of the Level of Participation of Female Members of Agricultural Cooperative Society

Table 14 shows the summary of multiple regression analysis showing the determinants of the level of participation of women in agricultural cooperatives. The independent variables significantly predict the level of participation of women in agricultural cooperatives, $F(16,202) = 1.535$, $p < .05$, which indicates that the predictors under study have a significant impact on the level of participation. Furthermore, the $R^2 = .630$ depicts that the model explains 63.0% of the variance in the level of participation of female members of agricultural cooperative society.

Additionally, coefficients were further assessed to determine the influence of each of the predictors on the dependent variable. The result revealed that age (t = 1.396, P<.05), farming experience (t = .102, P<.05), household size (t = -1.527, P<.05) and years of membership in a cooperative (t = .299, P<.05) had positive and significant impact on the level of participation of female members of agricultural cooperative society. This means that for every increase in the coefficient (0.004), there is an increase in the age of the respondents and the higher their level of participation in the cooperative empowerment programme. This finding agrees with [28], that education is likely to expose people to the advantages of cooperative societies. Household size also influences the level of participation, the higher the household size the more the level of women's participation in cooperative activities. This finding supports [29], that cooperators' household size ranges between 7-10 persons.
The higher the years of experience of the women farmers at this coefficient (0.023), the higher their level of participation in the empowerment programme. The result implies that the level of participation increases with an increase in those variables [24].
However, distance to the place of the meeting (-0.007) had a negative and significant impact on the level of participation of women in the cooperative empowerment programme. That is, the farther the distance to the meeting venue, the less likely the respondents participate in empowerment programmes organised by the cooperative societies. This buttresses [30], who opined that socio-economic characteristics determine the level of participation of farmers in group activities.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.329[a]	.630	.038	.29288

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.107	16	.132	1.535	.032[b]
	Residual	17.328	202	.086		
	Total	19.434	218			

Table 14. Summary of Multiple Regression Analysis Showing the Determinants of the Level of Participation of Female Members of Agricultural Cooperative Society (n = 219).

Predictors	Coefficient Beta	Std. Error	t-value	Sig.	Remark
(Constant)	3.067	.292	10.518	.000	
Age of respondents	.004	.003	1.396*	.043	S.
Marital Status	-.006	.049	-.129	.897	NS
Religion	-.047	.060	-.775	.439	NS
Level of Education	.008	.030	.259	.796	NS.
Primary Occupation	.019	.019	1.034	.303	NS
Annual Income	2.049E-007	.000	1.003	.317	NS
Farming Experience	.023	.004	.102**	.001	S.
Farm Size	.015	.018	.853	.395	NS
Mode of Land Ownership	.020	.020	1.008	.315	NS
Household Size	.009	.006	-1.527*	.012	S.
When was the Cooperative Society established?	.001	.004	.303	.762	NS
How long have you been a member of the Cooperative Society?	.001	.005	.299*	.021	S.
Cooperative Size	-.007	.005	-1.469	.053	NS
Frequency of Meeting	-.009	.030	-.297	.767	NS
Distance to Place of Meeting	-.007	.013	-.525*	.028	S.
Annual Membership Due	-1.274E-005	.000	-.839	.403	NS

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(Field survey, 2023) *significant at 0.05level **significant at 0.01level (2-tailed), R Square = .630, Adjusted R Square = .038, F = 1.535

3.11. Results of Pearson's Product Moment Correlation Analysis Showing the Level of Participation and the Level of Empowerment of the Respondents

H_{02}: There is no significant relationship between the level of participation and the level of empowerment of the respondents

Table 15 shows the summary of Pearson's Product Moment Correlation analysis showing the level of participation and the level of empowerment of the respondents. The result indicates a positive correlation which is also statistically significant at 67% ($r = .67$, $p < .05$). The hypothesis is therefore rejected.

The result indicates that, as the respondents' level of participation increases, so does the level of empowerment and vice versa. This implies that only the women who participated in the cooperative activities would be empowered by the cooperative societies. This finding agrees with the work of [31], which reveals that an increase in women's level of participation in group activities would lead to an increase in the level of women empowerment.

Table 15. Summary of Pearson's Product Moment Correlation Analysis Showing the Level of Participation and the Level of Empowerment of the Respondents (n = 219).

		Level of Participation	Level of Empowerment	Remark
Level of Participation	Pearson Correlation	1	.67**	Significant
	Sig. (2-tailed)		.004	

(Field survey, 2023) **significant at 0.05level (2-tailed)

Conclusion

The study concluded that the respondents were in their productive years of making meaningful impact in their families through empowerment programmes organised by different cooperative societies. The selected cooperative societies were able to empower the women farmers in key areas like collective processing of farm produce, this will give the women strong bargaining power to negotiate for any machinery that may be needed for processing activities on their farms. Their levels of education assisted in so many ways the fact that they were able to undergo different skills acquisition programmes, leadership training and adult education including advisory and advocacy services under several empowerment programmes. Although women farmers had no access to cash and financial services but were able to build self-esteem and, a sense of inclusion, they were committed to girl children's education and had freedom from domestic violence. Women farmers' level of participation in the empowerment programmes was moderate because the cooperative societies had limited funds to deliver more empowerment programmes while the women farmers were constrained with limited access to credit facilities. The selected socio-economic characteristics of women farmers such as age, farming experience, household size, and years of membership in cooperative societies had a significant relationship with their levels of participation in the empowerment programmes. Pearson Product Moment Correlation also indicated a positive and significant correlation between the levels of participation and empowerment.

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