**ASSESSMENT OF FARMERS PARTICIPATING IN AGRICULTURAL COOPERATIVE SOCIETY IN KOGI STATE, NIGERIA**

**BY**

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**June, 2022**

**DECLARATION**

I , OLUWATOSIN ALEXSANDRA ASEMOKHAI , a M.Sc. student in the department of Agricultural Extension, Landmark University , Omu-Aran hereby declare that this thesis entitled “Assessment of Farmers Participation in Agricultural Cooperative Society in Kogi State, Nigeria”, submitted by me is based on my original work. Any material(s) obtained from other sources or work done by any other persons or institutions have been duly acknowledged.

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**CERTIFICATION**

This is to certify that this thesis has been read and approved as meeting the requirements of the Department of agricultural economics and extension, Landmark University, Omu-Aran, Nigeria, for the Award of master’s degree.

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**ABSTRACT**

*Despite the fact that farmers are registered members of agricultural cooperative societies, they are still not enjoying the associated benefits of large scale production because of some identifiable constraints such as, low capital base, gender inequality, high interest rate on loan, ineffective government supervision, inadequate storage facilities, poor transportation facilities, poor information and communication, member’s dissatisfaction, disloyalty and poor commitments. The general objective of the study therefore was to assess farmers participating in agricultural cooperative society in Kogi State, Nigeria.*

*The study was carried out in three agricultural zones in Kogi State, a total of 352 respondents were randomly selected from six villages and structured questionnaires were used to elicit information. Data were analyzed using descriptive statistics such as frequency tables, percentages, mean, standard deviation and ranks.*

*The level of farmers’ participation in agricultural cooperative activities was analyzed using participation index formula which was further categorized into low, moderate and high. Ordinal logistic regression model (proportional odds ratio) and simple linear regression were used in testing the hypothesis. The research identifies the relationship between some selected farmers’ socio economic characteristics and their level of participation in agricultural cooperative activities, it also shows how the type of activities carried out in agricultural cooperative society influences the level of participation in agricultural cooperative activities and it concluded that listed constraints are threat to farmers’ participation in agricultural cooperative society activities in the study area.*

*The research recommends that agricultural cooperative society should carry out activities that are in line with the needs of the farmers and should engage private extension agents to educate her members so as to bridge the gap of inadequate extension agents from the government.*

**Key words:** Agricultural Cooperative Society, Participation, Cooperative Activities

**DEDICATION**

This work is dedicated to the almighty God for his mercies, protection and grace shown me throughout this programme and to my entire family (my husband, children, mother and brother) for their love and support throughout this programme.

**ACKNOWLEDGEMENTS**

I return all the glory thankfully to the Almighty God for the completion of this research work. My heart is elated because of his mercies.

My sincere gratitude goes to my supervisor Professor Jones Akangbe for the fatherly and professional privileges accorded to me, his insight into this research horizon, his generosity of time, patience, invaluable advice and encouragement at different stages of this thesis, to make this work a huge success.

My gratitude also goes to my former and present co-supervisor’s Dr. Ogunjimi for his fatherly counsel and Dr. Kolawole for his comment during the course of my presentations.

I am also grateful for the fatherly contributions and guidance I enjoyed from Prof. Bamiro, Prof. Abolushoro and Prof. S.A. Bolu.

My special gratitude goes to my husband, the definition of love, thank you for believing in me, for being my strong pillar of support, my foremost cheerleader, thank you for providing every resources needed and allowing me reach for the star, defining the genuineness of your love to us. And to my children Michelle, Jaden, Jason and Tiffany thank you for standing by mummy, I brought you out in the cold and you never complained, loving you can never be better it is always the best.

To my dad, even though you left while I was on this voyage, your contribution and fatherly role cannot be eroded. And to my mum, even in the mist of the storm you still believed in me, thank you mummy for your prayers, encouragement, ceaseless moral and financial support .Love you now and always.

And to my own Poppilicious, you are a reminder of my gratitude to God always, love you always and to my little sister Adejoke, thank you and love you too.

I am indeed grateful to the COCAS ( Mr. Olaoluwa Adekunle), Dr. Olayiwola Ibunkun, Mr. Awe, Mr. Wale , Mrs. Oni , Mr. Adeyanju for their excellent disposition and diverse contributions.

No less measure of gratitude goes to my friends and well-wishers, Olanrewaju Abimbola, Stephen Ottu, Faithfulness Olasehinde, Titilayo Adeniran for their valuable help and encouragement.

**TABLE OF CONTENT**

Title page - - - - - - - - - - - - - - - - - -- - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - i

Declaration - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - ii

Certification - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - iii

Abstract - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - iv

Dedication - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -- - -v

Acknowledgement - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - vi

Table of Content - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -viii

List of Tables - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -xiii

List of Figures - - - - - - - - - - -- - - - - -. - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -xv

**CHAPTER ONE**

1.0: Introduction - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 1

1.1: Background to the study - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 1

1.2: Statement of problem - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 3

1.3: Justification of the study - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 3

1.4: Research objective - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -4

1.5: Research questions - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -4

1.6: Hypotheses of the study - - - - - - - - - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - 5

1.7: Scope of the study - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 5

1.8: Significance of the study - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 5

1.9: Operational definition of terms - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -6

**CHAPTER TWO**

2.0: Literature review - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 7

2.1: Concept of cooperative society in Nigeria - - - - - - - - - - - - - - - - - - - - - - - - - - -7

2.1:1: Agricultural cooperative society in Nigeria - - - - - - - - - - - - - - - - - - - - - - - - 7

2.1.2: The need to participate in agricultural cooperative society - - - - - - - - - - - - - -8

2.2:Empirical studies on farmers’ participation in agricultural cooperative - - - - - - - 8

2.3: Review of methodological approach - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 9 2.4Gaps identified in literature - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 9

2.5: Theory of the study - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -9

2.6: Theoretical model - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 10

2.7: Conceptual framework - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 11

2.7.1: Explanation of variables - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -12

**CHAPTER THREE**

3.0: Methodology - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -14

3.1: Research design - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 14

3.2: Study area - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 14

3.3: Sampling procedure and sample size - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -15

3.4: Method of data collection - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -16

3.5: Measurement of variables - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 17

3.6: Reliability of instrument - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 18

3.7: Validity of instrument - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -18

3.8: Analytical techniques - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -19

**CHAPTER FOUR**

4.0: Result and discussion of findings - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -22

4.1: Socio-economic characteristics of the respondents - - - - - - - - - - - - - - - - - - - -22

4.1.1:Age - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -22

4.1.2: Gender - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -22

4.1.3: Marital status - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -22

4.1.4: Level of education - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -23

4.1.5: Household size - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 23

4.1.6: Annual income - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -24

4.1.7: Annual savings - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -24

4.1.8: Year of farming experience - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 24

4.1.9: Agricultural enterprise - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 25

4.1.10: Years of cooperative membership - - - - - - - - - - - - - - - - - - - - - - - - - - - - -25

4.1.11: Types of agricultural cooperative - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - 25

4.1.12: Status in the cooperative - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 26

4.1.13: Frequency of cooperative meetings - - - - - - - - - - - - - - - - -- - - - - - - - - - - - 26

4.1.14: Attendance at cooperative meetings - - - - - - - - - - - - - - - - - - - - - - - - - - - -27

4.2: Activities carried out in agricultural cooperative society - - - - - - - - - - - - - - - - 32

4.3: Level of participation in agricultural cooperative activities - - - - - - - - - - - - - - -34

4.4: Benefits enjoyed by farmers in agricultural cooperatives - - - - - - - -- - - - - - - - 36

4.5: Constraints limiting farmers from participating in

agricultural cooperative society - - - - - - - - - - - - - - - - - - - - - - - - ---- - - - - - 39

4.6: Hypothesis testing - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - - 42

4.6.1: Analysis of the relationship between selected socioeconomic characteristic 42

4.6.2: Model fitting information for selected socioeconomic characteristic - - - - - - 42

4.6.3: Goodness of fit for selected socioeconomic characteristics - - - - - - - - - - -43

4.6.4: Test of parallel lines for selected socioeconomic characteristic - - - - - - - - - -44

4.6.5 : Result of the relationship between selected socioeconomic - - - - - - - - - -44

4.7: Analysis of the relationship between activities carried out in agricultural cooperative society - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - -50

4.7.1: Model fitting information for activities carried out agricultural cooperative

society - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - 50

4.7.2: Goodness of fit for activities carried out in agricultural cooperative

society - - - - - - - - - - -- - - - - - - - - - - -- - - -- - - - - - - - - - - - - - - - - - - 50

4.7.3: Test of parallel lines for activities carried out in agricultural cooperative

society - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 51

4.7.4: Ordinal logistic regression result of the relationship between activities

carried out in agricultural cooperative society - - - - - - - - - - - - - - - - - - - 52

4.8: Linear regression analysis of the relationship between the constraints

faced by farmers in agricultural cooperative society - - - - - - - - - - - - - - -- - 53

**CHAPTER FIVE**

5.0:Summary conclusion and recommendation - - - - - -- - - - - - - - - - - - - - - - - - - -54

5.1: Summary of findings - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -54

5.2: Conclusion - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 55

5.3: Recommendation - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -56

5.4: Contribution to knowledge - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -56

5.5: Suggestion for further reading - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -57

References - - - - - - - - - - - - - - - - - - - - - - - -- - - - - - - - --- - - - - - - - - - - - - - - -- 58

Appendix I : Time-line-of –chart - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 68

Appendix II: Questionnaire - - - - - - - - - - - - - - - - - - - - - - - - - - - - -- - - - - - - - - - 69

**LIST OF TABLES**

Tables Title Pages

Table 1: Sampling procedure for farmers’ in agricultural cooperative - - - - - - - - - - 16

Table 2: Distribution of respondents’ socioeconomic characteristics - - - - - - - - - - -27

Table 3: Distribution of respondents by agricultural ccooperative activities - - - - - - 32

Table 4: Distribution of respondents by agricultural cooperative activities

participated in - - - - - - - - - -- - - - - - - - - - - - - - - - - - - - - - - - - - - -- - - -34

Table 5: Level of farmers’ participation in cooperative activities - - - - - - - - - - - - -36

Table 6: Distribution of respondents by benefits derived - - - - - - - - - - - - - - - - - - 37

Table 7: Constraints limiting farmers’ from participatingin

agricultural cooperative society - - - - - - - - - - - - - - - - - - - - - - - - -- - - 40

Table 8: Model fitting information for selected socioeconomic characteristics - - - -42

Table 9: Goodness of fit for selected socioeconomic characteristics - - - - - - - - - - 43

Table 10: Test of parallel lines for selected socioeconomic characteristics - - - - - - -44

Table 11: Ordinal logistics regression result between selected socioeconomic

characteristics - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -48

Table 12: Model fitting information for activities carried outin agricultural

cooperative - - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - -50

Table 13: Goodness -of –fit for activities carried out in agricultural

cooperative - - - - - - - - - - - - - - - - - - - - - - - - - - -- - - - - - --- - - - - 51

Table 14: Test of parallel lines for activities carried out in agricultural

cooperative - - - - - - - - - - - - -- - - -- - - - - - - - - - - -- - - - - - - - - - - 51 Table 15: Ordinal logistic regression between activities carried out by

agricultural Cooperative society - - - - - - - - - - - - - - - - - - - - -- - - - - - 52

Table 16: Test of relationship between the constraints faced by the

farmers in cooperative society - - - - - - - - - - - - - - - - - - - - 53

**LIST OF FIGURES**

Fig 1: Theoretical framework of factors influencing women’s participation in

cooperative society - - - - - - - - - - - - - - - - - - - - - - - - - - - -- - -- - - - - - - - 10

## Fig 2: What Motivates Members to Participate in the Governance of Consumer

## Cooperatives? - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 11

Fig 3 : Map of Kogi State - - - - - - - - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - 14

**CHAPTER ONE**

**1.0 INTRODUCTION**

**1.1 Background to the Problem**

Cooperatives portray themselves as a powerful and trustworthy economic alternative formed to protect and meet rural farmers’ mutual needs by addressing the incapability and unease caused as a result of their poor economic status which makes it difficult to change their lives and results in poverty (Amin & Uddin, 2014).

In Nigeria, about 39.1 % of the populace live below the international poverty line while majority of the poor (84.6%) are rural people (World Bank, 2021). The rural poor are farmers who practice agriculture as their main occupation, faced with many agricultural challenges they can’t solve alone (Adefila & Madaki, 2014)

Cooperative society is the only institution that addressees all economic, democratic and social dimension of poverty reduction (Garandi & Hassan, 2020), it stands as a panacea to poverty eradication by providing production support and marketing services (Sizya, 2001) that fosters an increase in production and transforms the socio-economic life of the rural poor (Garandi and Hassan, 2020).

Cooperative society is not an entirely new concept, however, the first recorded cooperative , a consumer cooperative was founded by Fenwick Weavers’ Society in 1761, (Wikipedia, 2021) while the modern cooperative got its model from the Rockdale Pioneers ( Van , 2010)

Cooperative movement has grown exponentially, spanning the globe and encompassing all economic sectors (Coops 2021). In Nigeria, cooperative societies existed traditionally as an ageless activity practiced with different names among various tribes (Nigeria Real Estate Hub, 2018), however, cooperatives are commonly classified based on the interest of the people (Dogarawa, 2005)

Agricultural Co-operative is a type of cooperative where farmers pool their resources together (Wikipedia , 2022), Many development organizations , agribusinesses , governments and international development organizations promotes agricultural cooperatives as a policy initiative that empowers the rural farmers’ economically, socially and sustains rural development when farmers engage in it (Olagunju, Ogunniyi, Oyetunde-Usman, Omotayo, & Awotide, 2021)

In Nigeria the prominent types of agricultural cooperatives are agricultural producer cooperatives, agriculture marketing cooperatives, agricultural cooperatives for credit and thrift, consumer agricultural cooperatives and multipurpose agricultural cooperatives (Nnadozie, Oyediran, Njouku, & Okoli, 2015) However, rural development can only be achieved by active participation of farmers in their agricultural cooperative (Akpomedaye, 2017)

Participation should not be assumed as something that happens naturally or given (Hidayat, Suharyono, Kumadji, & Solimum, 2014). The level of members participation in agricultural cooperative determines how much money is contributed, how much is saved for cooperative capital needs, members involvements in decision making activities from planning to evaluation stage of cooperative programmes ( Hidayat et.al 2004).

Onuche & Oladipo, (2021) Farmers in Kogi State are bedeviled with poverty and about 84.1% of the farming household live below the poverty line, Ibitoye, (2012) , despite the fact that there are several cooperatives in Kogi State , many small holder farmers are still not enjoying the associated gains and benefits of cooperative membership because of ineffective cooperative participation (Dawson, Martin , & Sikor, 2016).

It is against the backdrop of the forgoing that it is imperative to critically assess farmers participating in agricultural cooperative society so as to understand factors responsible for farmers’ non participation and how to increase their participation so that they can have large scale production.

### 

### 1.2 **Statement of the Problem**

Cooperative as a vehicle for socioeconomic development and livelihood improvement has been emphasized over the years (Birchall, 2004), however, despite the formation and registration of several agricultural cooperative society, most of the cooperative are not sustainable and often wind up, because of farmers non participation, defeating the purpose it was established and affecting the lives of the rural farmers who relied on the cooperative in meeting their needs.

Unequal decision making opportunity by members, unqualified management and administrators , uncommitted members, inability of members to hold management accountable, low capital base, gender inequality , high interest rate on loan , ineffective government supervision ,inadequate storage facilities, poor transportation facilities, poor information and communication, members dissatisfaction , disloyalty and poor commitments among members are some of the identified constraints to farmers’ active participation in agricultural cooperative society

These participation constraints causes a wide gap between agricultural production and farmers’ income and thereby eventual collapse of the cooperative because farmers are not enjoying the associated benefit of large scale production.

Therefore, it is imperative to critically assess farmers’ participation in agricultural cooperative society and the factors responsible for participation and non-participation so that agricultural cooperative societies can serve the needs of the farmers towards increased productivity.

**1.3 Justification of the Study**

Despite the increasing number of agricultural cooperatives in Nigeria and farmers’ membership in these cooperatives, poverty is still a predominant rural issues because farmers are faced with several agricultural challenges they cannot solve by themselves limiting their productivity.

Therefore, there is need to address the cause of low productivity and poverty among farmers in agricultural cooperative society because it is critical to rural development.

Also, this research findings will contribute to existing literature and increase the body of knowledge.

**1.4 Research Objectives**

The general objective of the study is to assess farmer’s participation in cooperative society in Kogi State, Nigeria. Specifically, the study seeks to:

1. Describe the socioeconomic characteristics of farmers' engaged in Agricultural cooperative society.
2. Examine activities of farmers participating in Agricultural cooperative society
3. Assessing the level of farmers’ participation in Agricultural cooperative activities
4. Describe the benefit derived from participating in Agricultural cooperative society
5. Identify constraints faced by the farmers limiting them from participating in Agricultural cooperative society s

**1.5 Research Questions**

The following research questions are to guide the researcher towards finding:

1. What are the socioeconomic characteristics of farmers' engaged in agricultural cooperative society?
2. What are the activities carried out in agricultural cooperative society?
3. What is the level of farmers’ participation in agricultural cooperative society?
4. What are the benefits derived from participating in agricultural cooperative society?
5. What are the constraints faced by the farmers' as they participate in agricultural cooperative society?

**1.6. Hypotheses of the study**

H01: There is no significant relationship between socioeconomic characteristics and the level of participation in agricultural cooperative society

H02: There is no significant relationship between activities carried out in agricultural cooperative societies and farmer’s level of participation in agricultural

H03: There is no significant relationship between the constraints faced by the farmers in cooperative society and the level of participation in cooperative society.

**1.7. Scope of the Study**

The study is limited to Kogi State in the North central geopolitical region Nigeria.

The research seeks new insight into the reasons for farmers’ participation in cooperative society and the impact on farmers’ productivity. The research is principally exploratory and strives for a better understanding of why farmers’ income is still low despite the different cooperative societies available.

**1.8. Significance of the Study**

This study highlighted the benefits of participating in cooperative society activities, and the findings demonstrated how the type of activity carried out affects farmers’ participation in cooperative activities.

Enlightenment of farmers on how participation in cooperative society activities positively affects their economic well-being and longtime survival of their cooperatives.

The result of this study is useful to managers of cooperative societies in coordinating activities that will arouse farmers interest in participating effectively in agricultural cooperative society activities and it will also assist the government in formulating policies and programs targeted at improving rural farmers’ standard of living through their cooperatives societies.

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**1.9. Operational Definition of Terms**

**Agricultural Cooperative:** Group of farmers that came together to pull their resources together

**Benefits:** Advantages or profits enjoyed as a member of a cooperative society

**Cooperative Activities:** These are tasks carried out by the cooperative in other to enhance the economic and social status of the cooperative and the members.

**Constraints:** Factors that limits farmers from participating in cooperative societies.

**Economic Well-being:** This is defined as having present and future financial security

**Participation:** the act of taking part in something that is inclusion.

**CHAPTER TWO**

## 2.0 LITERATURE REVIEW

## 2.1. Concept of Cooperative Society in Nigeria

Households in Africa has about 40% membership in cooperative societies. In Nigeria, cooperative societies existed traditionally as an ageless activity practiced with different names among various tribes (Schwettmann, 2000).

However the emergence of the new age cooperative in Nigeria, can be traced to the re-organization of the cocoa producers’ cooperatives of Agege Planters union in Abeokuta and the Egba farmers union in Ibadan by Sir Graeme Thompson in 1926 into agricultural marketing cooperatives (Ogun State Cooperative Federation Limited, 2021) which then led to the invitation of C.F Strickland by the Nigerian government, to propose the best cooperative system suitable for Nigeria in 1934 and by 1935, Nigeria was then brought into the era of modern cooperative (Onuoha 2002), in 1945, with the formation of the apex national organization called Co-operative Federation of Nigeria (Ogun State Cooperative Federation Limited, 2021).Cooperative societies in Nigeria recorded success prompted successive military government to use it as an instrument to drive rural and economic development and a medium for sharing national wealth (Ogun State Cooperative Federation Limited, 2021).

### 2.1.1 Agricultural Cooperative Society in Nigeria

### Major Types of Agricultural Cooperatives in Nigeria are:

* Agricultural Producer Cooperatives: They protect the interest of small producers by providing production materials such as raw materials, tools, machinery and equipment (Okeke & Nwoye, 2019)
* Agricultural Marketing Cooperatives: These are producer groups that come together to market their produce collectively and to acquire for their members the benefits of large-scale business. (Batzios, Kontogeorgos, Chatzitheodoridis, & Sergi, 2021).
* Agricultural Consumer Cooperatives: they buy goods directly from the farmers eliminating middlemen in the process of distribution.
* Agricultural Thrift and Credit Cooperatives: Credit and thrift cooperative makes it easier for low income farmers to save for cooperative lending (Otto & Ukpere, 2011) (Otto and Ukpere , 2011)
* Agricultural Multipurpose Cooperative Societies: performs multi functions such as financing, processing, production, marketing and distribution of agricultural produce. (Ibitoye ,2012)

## 2.1.2. The Need to Participate in Agricultural Cooperative

## Farmers must take part in agricultural cooperatives because they provide the institutional framework through which their farming processing and marketing activities can be managed (Davis, 2008).

## Verhofstadt & Maertens ,(2015) concluded cooperative is a tool for poverty reduction in their study , while Abebaw & Haile, ([2013](https://agrifoodecon.springeropen.com/articles/10.1186/s40100-017-0075-z#ref-CR2)) concluded that it improves farmers livelihood by influencing members to adopt produity enhancing technology..

## 2.2 Empirical Studies on Farmers Participation in Agricultural Cooperatives

Olabisi & Pethronila, (2011) concluded that socioeconomic characteristic of farmers influences their participation in cooperatives.

Ubana, Salau & Girei (2019) in the study constraints to performance of the agricultural cooperative society’s services to members in the southern agricultural zone of Nasarawa State, Nigeria, discovered that cooperative societies carried out several activities that influences cooperative performance.

Awotide, Awoyemi & Fashogbon , (2015 discovered that cooperative members access to some benefits such as access to extension services and education influences positive participation. While, Msimango & Oladele, (2013), concluded that constraints are threat to farmer’s participation in agricultural cooperatives,

.**2.3 Review of Methodological Approach**

The study factors affecting the members participation on cooperative in North sumatera (Ernita, Firmansyah, & Al Rozi, 2014) 100 respondents were selected from several municipalities and regencies in North Sumatera . The data was analyzed using Pearson Correlation and multiple Linear Regression.

* 1. **Gaps Identified in Literature**

1. Several research has been carried out on cooperative in Kogi State Nigeria but no research has been carried out on the assessment of farmers participating in agricultural cooperative societies in Kogi State, Nigeria
   1. Theory of the Study

**Theory of Social Exchange**

Social exchange theory is a theory based on the concept that individuals make decision by measuring the costs and rewards of a relationship or action consciously or unconsciously. The Social exchange theory was developed by George Homans in 1958 while , Peter Blau and Richard Emerson later added knowledge to the theory.

**2.6 THEORETICAL MODEL**

## 

## *Fig 1: What Motivates Members to Participate in the Governance of Consumer Cooperatives?*

**Source: Adapted from Birchall & Simmons, (2004)**

The theoretical model used for this study is gotten from the study, what motivates members to participate in the governance of consumer cooperatives? (Birchall & Simmons, 2004). The theoretical framework explained how independents variables such cost (constraints), opportunity cost, satiation, are threats to members participation in cooperative governance while benefits such as employment , finances , interaction, achievements and habits influences members participation in cooperative governance.

**2.7. CONCEPTUAL FRAMEWORK**

## Independent Variable Intervening Variables Dependent Variable Variable

**Participation Outcome**

* Increase in Farmers productivity
* Increase in Income
* Rural Development
* Cooperative success

**SOCIO ECONOMIC VARIABLES**

* Age
* Marital Status
* Gender
* House Hold Size
* Level of Education
* Farm Size
* Farming Experience
* Income
* Savings
* Government policies
* Cultural Belief
* Public Reforms

**Level of Participation in cooperative activities**

If members do not attend /participate in cooperative activities

If members attend or participate in cooperative activities

**I**f member attends or participates between 30-50% in cooperative activities

If members attend or participates between 50-70% of cooperative activities

If members attend or participates in all cooperative activities 70% and above of

Cooperative activities

**Cooperative activities**

**Constraints**

**Benefits**

***Fig 2: Conceptual Framework of Assessment of Farmers’ Participation in Agricultural Cooperative Society***

**2.7.1 Explanation of Variable**

Age, household size, gender, educational status farmers’ income, farming experience and savings, cooperative activities, benefits and constraints are the independent variables considered in this study .For example the age of farmers participating in cooperative will determine the type of cooperative activities the farmer will engage in, the type of benefits he will enjoy and the constraints the farmer will be faced with. Gender as an independent variable that affects the level of women’s’ participation in cooperative due to gender discrimination ,cultural hindrances and poor educational background among rural women which impedes from participating in cooperative decision making activities and deprives them from enjoying certain benefit unlike their male counterparts. Household size influences farmers’ level of participation in cooperative because a farmer with more numbers of household will be able to delegate duties and create time to be at the agricultural cooperative for cooperative activities. Level of education also affected the farmers’ participation because educated farmers are more likely to adopt innovations and they understand cooperative benefits more.The higher the income of a farmer the higher his participation because he will be able to contribute and pay his cooperative dues. Farming experience also influences level of farmers’ participation .The higher the savings a farmer has in the cooperative the more he sees himself as a stakeholder in the cooperative and the more he participates in cooperative activities. The type of cooperative activities an agricultural cooperative society engages in determines the interest and motivation a farmer has in participating in the cooperative society. The benefits enjoyed by farmers’ in a cooperative society determine his commitment to participate in the cooperative society. The independent variables will influence the level of farmers’ participation in the cooperative. The more the activities engaged in the higher the benefit enjoyed by the farmer. When a farmer is faced with certain constraints that affect his interest in the cooperative society the farmer tends to participate less

The intervening variables are variables such as government policies, cultural barriers and public reforms which do not directly affect the core variables. The intervening variables such as cultural belief affects women farmer more because culturally she doesn’t have autonomy to make decision by herself and also their cultural responsibility of taking care of the home affects their participation in cooperative activities and which sees them enjoying lowers benefits irthan their men counterpart.

The level of participation is the dependent variable and this is influenced by socioeconomic characteristics of farmers in cooperative society, the cooperative activities farmers engage in, the benefits they enjoy and the constraints that limits their involvement in agricultural cooperative society activities. Farmer’s productivity, income, rural development increases with increased participation in agricultural cooperative society.

**CHAPTER THREE**

## 3.0 METHODOLOGY

This chapter shows the description of the research strategy, research design, research method, study area, sampling techniques and data analysis.

Survey research design was adopted for this study, this involved analyzing data gotten from the selected respondents.

**3.1 Research** Design

This study used the survey research design.

**3.2 Study Area**



***Fig 3: Map of kogi State***

Kogi State is in the North Central geopolitical zone of Nigeria and is situated on coordinates 7.30 o E and 6.42 o E. The is bordered in the west by Kwara and Ekiti States, Benue State borders it to the east , while Anambra borders the state to the south and Niger and FCT to the north ( Wikipedia , 2022) .

The state has two climate season , the dry and wet season and it is on a land mass of about 75,000 sq. kilometers, however, about 20% of the land mass is inhabited by humans, rivers and streams takes about 5% ,mountains and hills occupies about 7% and the larger percentage 68% is used for cultivation (Ibitoye,2012)

There are about 2,422,559 males and 2,327,557 females with an estimated total population of 4, 750,115 in the state (Nigerian Investment Promotion Commission, 2021), from various ethnic groups. Majority of the people lives in the rural area and are predominantly farmers. (Agbamu, 2015),.

There are different types of cooperatives in the state but agricultural cooperative is the most prominent among farmers’ (Ibitoye, 2012)

## 3.3 **Sampling Procedure and Sample Size**

## Multi-stage selection process was utilized in selecting 352 respondents from a list of agricultural cooperative societies obtained from the Kogi State Ministry of Commerce and Industry..

## Stage 1: First stage involved the selection of six local government areas purposively from each of the three agricultural zones.

## Stage 2: Six villages were purposively selected; one village each from the six LGA based on the high level of coordination of cooperators.

## Stage 3: Last stage involved 10% random sampling of the respondents from the selected cooperatives to make-up for a total number of 352 respondents.

**Table 1: Sampling Procedure for Farmers’ in Agricultural Cooperative**

|  |  |  |
| --- | --- | --- |
| **Local Government** | **Villages** | **No of Respondents** |
| Ijumu  Yagba West | Aiyetoro Gbede  Ejiba | 58  16 |
| Kogi  Lokoja  Adavi | Koton Karafe  Felele  Adavi-Odu | 114  95  40 |
| Okehi  **Total** | Osara | 29  **352** |
|  |  |  |

**Source: Authors’ Field survey 2022**

**3.4 Method of** Data Collection

Structured questionnaires was used in collecting information from the farmers.

## 3.5 **Measurement of Variables**

**INDEPENDENT VARIABLE**

1. **Age:** Farmers were asked to state their actual age in years.
2. **Educational Qualification:** a. Non-formal education (0) b. Primary education (1) c. Secondary education (2) d. Tertiary Education (3)
3. **Marital Status:** respondents were asked to indicate if a. married (1) b. single (2) c. widow (3) d. divorced (4)
4. **Gender:** a. Male (0) b. Female(1)
5. **Household Size:** Famers were asked to state number of people feeding from same pot.
6. **Years of Farming:** Actual number of years was asked
7. **Annual income**: Farmers’ were asked to state total income realized in a year
8. **Major Agricultural Enterprise:** a. Mixed farming ( 1 ) b. Crop Production (2) c. Livestock Production (3) d. Agricultural Produce marketing (4 ) e. Agro – Processing (5) f. Farm Input Marketing (6 )
9. **Annual cooperative savings:** respondents were asked to state how much they save in their cooperative yearly in naira.

**B. Level of participation in cooperative activities:** the level of farmers’ participation in cooperative activities was measured by using a Participation Index formula to get an index value ranging between 0 and 1. Farmers were asked to pick from a list of selected cooperative activities, a rating scale ranging from 0-4 was used in measuring the level of farmers’ participation in the listed cooperative activities in percentages as

Follows:



Where

**Sci=** Cooperative participation Index

**Mi=**Farmers’ Membership in the cooperative society

**Pi =** Level of participation in cooperative activities; which takes on values from 0-4

**0=** if members does not attend /participate in cooperative activities

**1=** if members attends or participate in cooperative activities< 30%

**2=** if member attends or participates between 30 - <50% in cooperative activities

**3=**if members attends or participates between 50 -<70% of cooperative activities

4= member attends or participates in all cooperative activities 70% and above

K =Number of cooperative types covered in the survey

( Ologbon, Idowu & Oyebanjo, 2013)

**C. Activities of agricultural cooperative:** this was measured using a 5 point Likert type scale of a. Strongly Agreed (5) b. Agreed (4) c. Undecided (3) d. disagree (2) e. Strongly Disagree ( 1).

**D. Benefits derived from cooperative :** this was measured using a 5 point Likert type scale of a. Strongly Agreed (5) b. Agreed (4) c. Undecided (3) d. disagree (2) e. Strongly Disagree ( 1).

**E. Participation Constraints**: was measured using a. Major Constraints (3), b. Not a constraint (2) c. Minor Constraints (1)

## 3.6 **Reliability of Instrument**

Test re-test method was used in obtaining the reliability of the questionnaire. A very reliable questionnaire should be higher than 0.71. The test retest was carried out using some of the cooperatives not captured in this research.

## 3.7 Validity **of Instrument**

Face and content validity method was employed in validating the questionnaire by lecturers in the Department of agriculture and other colleagues before administering.

## 3.8 **Analytical Techniques**

**Objective 1:** Frequency tables, percentages and means were used as descriptive statistics

**Objective 2:** Frequency, percentages, mean scores and ranks

**Objective 3:** Participation Index formula



Where

**Sci =** Cooperative participation Index

**Mi =**Farmers’ Membership in the cooperative society

**Pi =** Level of participation in cooperative activities; which takes on values from 0-4

**0 =**If members does not attend /participate in cooperative activities

**1=** If members attends or participate in cooperative activities<30%

**2=** If member attends or participates between 30-<50% in cooperative activities

**3=**If members attends or participates between 50-<70% of cooperative activities

4= Member attends or participates in all cooperative activities 70% and above

K =Number of cooperate types covered in the survey

The index Value ranges between 0 and 1

(Ologbon, Idowu & Oyebanjo, 2013)

**Objective 4:** Frequency distribution, percentages, mean and rank were used for the descriptive statistics

**Objective 5:** Frequency distribution, percentages, mean and rank were used.

**Hypothesis 1:** There is no significant relationship between farmers’ socioeconomic characteristics and their level of participation.

Ordinal Regression Model to be used for this study is stated thus:

=

Where: The possibility of observing the phenomenal being observed

βo: When the dependent variable is fixed because the argument takes a value of zero

β1: The regression coefficients of the independent variables,

X: Independent Variables such as

X1= Age (Actual Age)

X2= Gender (Male (0) Female (1))

X3= Year of Education (Actual Years)

X4 = Household Size (Actual Number)

X5 = Annual Income

X6 = Marital Status (Single (1) Married (2) Divorced (3) Widowed (4))

X7= Years of Farming Experience (Actual Year)

X8= Year of Cooperative Membership (Actual Years)

**Hypothesis 2:** There is no significant relationship between type of agricultural cooperative activities and farmer’s level of participation.**(**Ordinal Regression Analysis)

**Hypothesis 3:** There is no significant relationship between the constraints faced by the farmers in cooperative society and their level of participation in cooperative society. (OLS Regression)

## CHAPTER FOUR

**4.0 RESULTS AND DISCUSSIONS OF FINDINGS**

This section discusses the analysis, results and their implication with respect to the specific objectives and hypotheses of the study.

**4.1 Socio-Economic Characteristics of the Respondents.**

**4.1.1 Age**

Data analysis in Table 2 shows 43.2% of the respondents participating in agricultural cooperative society in Kogi State falls in the modal age group of 41-50 years. The result shows that 45years is the mean age of the respondents. The age group where the farmers are expected to be full of energy, wisdom, initiatives and highly productive, it is believed that they will use their strength and agility in participating actively in cooperative society

This agrees is in tandem with the findings of Ogunleye et al., (2015) and Nlerum & Ogu (2014) that farmers’ participating in cooperative societies are adults active in farming.

## 4.1.2 Gender

Analysis in Table 2 revealed that majority of the farmers’ participating in cooperative Societies were male farmers’ (61.9%) while female respondents were (38.1%).The dominance of male over female is as a result of male farmers’ having larger farms than female and are saddled with more responsibilities to meet the needs of their families.

The result agrees with the discovery of Akangbe, Komolafe, Ajibola & Abdul-Karim (2014) that male farmers are more involved in cooperative than their female counterparts.

**4.1.3 Marital Status.**

The results analysis in Table 2, it revealed that a larger percentage (78.1%) of the respondents were married, while (6.3%) of respondents were divorced.

This shows supports the fact that the respondents were matured and responsible to be engaged in higher participation in agricultural cooperatives society.

This result agrees with Okwuokenye & Ovharhe (2020), who identified that majority of agricultural cooperative members are married.

**4.1.4 Level of Education.**

The data analysis results in Table 2 further revealed that (36.9%) had secondary education while (15.1%) of the respondents had tertiary education. The implication of the finding is that a few of the farmers had secondary education and many of them had Primary and Tertiary education level that are low as well; this could be as a result of many of them assisting their parents from youth and maintaining the farm work till adulthood.Any level of education will not only assist in increasing productivity but will increase farmers’ ability to understand and respond positively to participating actively in agricultural cooperative society.

This supports the findings by Zheng, Wang & Awokuse, (2012) that education significantly determines how farmers participate in cooperative activities.

**4.1.5 Household Size**

Table 2 also shows that (34.5%) of the respondents had between 5 and 9 household members eating from the same pot while (2.6%) of respondents had 20 and above household members .Then the mean household size of the respondent was 8 ± 4.30

This implies that large farmers’ household size means farmers will be able to participate in agricultural cooperative activities without hindrances and save..

The result of this research is supported by Chilokwu, Osisioma, Owan, Hikarofem and Ekpoebimene (2020) that farmers with large household saves better in cooperative.

**4.1.6 Annual Income**

## Table 2 revealed the average yearly income of the respondents was N 455, 235.80 ± N 277037.08, (36.6%) of the respondents earns between 301,000- 500,000 naira annually while, (1.4%) earns less than 100,000 naira annually.

This implies that smallholder farmers are poor and live below the $1.90 poverty line per person per day. And this will affect their capacity to save and therefore farmers will not be able to participate effectively in agricultural cooperative society.

This finding corroborate the findings Onuche & Oladipo, (2021) , that about majority of farm household in Kogi State are poor and earns below the international $1.90 poverty line per person per day.

**4.1.7 Annual Savings**

## Results of data in Table 2 shows that the average annual savings of the respondents was N 72,846.59 ± N 71,626.08. Majority of the respondents (60.8%) saves below N50,000, annually while (3.4 %) saves between N 151,0000- N 200,000 annually.

## This shows that majority of the respondents had low savings in their cooperative society this could be as a result of their low income, and therefore their participation in cooperative society will be low.

## This finding corroborate with the finding of Chizea & Alamanjo,(2020) and Adeyemo & Bamire, (2015) who discovered that saving level of farmers’ in their cooperative societies is low.

**4.1.8 Years of Farming Experience**

Result in Table 2 revealed the mean year of farming experience of the respondents’ is 19 ± 9.6 and farmers’ while farmers’ with 11-20 years farming experience were the majority (38.4%) and farmers with 41 and above (4.0%) farming experience were the lowest.

This implies that majority of the farmers had many years of on-the-job experience, which signifies farmers’ competency and skill acquisition that prompt their participation in agricultural cooperatives in other to address their challenges.

The result here is backed up by Okwuokenye & Okoh (2018) discovery that farmers that engage in group activities are usually equipped with many years of experience.

## 4.1.9 Agricultural Enterprise

## Data result in Table 2 revealed that (40.6%) respondents engaged in crop production while (8%) of the respondents engaged in livestock farming.

## This implies that majority of the farmers were into crop production may be because of the agrarian characteristic of the state. This could help farmers to participate in agricultural cooperative so as to access loans and input for production.

## This is in consonance with Ibitoye, (2012) findings that the major agricultural enterprise carried out by agricultural cooperative society in Kogi State is crop production.

**4.1.10 Years of Cooperative Membership**

As indicated by data result in Table 2, the mean year of cooperative experience is 19±9.69, many of the respondents (28.7%) had 10-14 years cooperative experience and (3.7%) had 20 years and above years of cooperative experience.

This implies that majority of the farmers’ had been members of their cooperative for a long time and this means that the longer the years the better their understanding of their cooperative benefits and this will influence their participation in their cooperative society. This research is in tandem with Tefera, Cho & Kwag, (2019) research findings that the higher the years of cooperative experience a farmer has, the better understanding the farmer has about cooperative benefits.

**4.1.11 Types of Agricultural Cooperative Society**

The Result in Table 2 further revealed that (37.2%) of the respondents are agricultural multipurpose cooperative society members, while (3.4%) of the respondents were members of agricultural consumer cooperative.

The implication is that farmers engage in agricultural multipurpose society because agricultural multipurpose societies combine many activities together as their main functions such production, processing, marketing, thrift and credit together.

The results supports Ibitoye (2012) findings that agricultural multipurpose cooperative is the major cooperative farmers’ participate in Kogi State.

**4.1.12 Status in the Cooperative**

Results in Table 2 revealed more than half of the respondents (58.8%) in the study area agreed that their status (Position) in the cooperative affects their level of participation in their cooperative activities, while (41.2%) of the respondents’ disagreed and said their level of participation in the cooperative societies is not determined by their cooperative status.

## This could be because farmers that are in one committee or the other, executives in the cooperative tends to take decisions that favor’s them and this will make them participate more while non-executive members and non - committee members will participate less.

## The findings by Abdulahi, Okeke & Eghunike, (2013) discovered that decision making affects farmers’ participation in cooperative societies.

**4.1.13 Frequency of Cooperative Meetings**

The above result shows that meetings are held at different interval of days. Less than half of the cooperatives in the study area (42.3%) held their meetings monthly, while only (3.4%) had quarterly meetings.

The implication of this result is that farmers will be able to plan ahead and coordinate themselves better since they have some week’s interval before the next meeting.

The above results supports the findings by Ekine & Okere (2020), who discovered that majority of agricultural cooperatives had their meetings monthly

**4.1.14 Attendance at Cooperative Meetings**

## Results in Table 2 shows that majority of the respondents (60.5%) attend their cooperative meetings regularly, while (20%) never went for meetings.

This could be because of the sanctions and punishments given to members when they are absent from meetings and also the benefits they derived from their cooperative. The greater percentage of members going for meetings regularly means better participation to cooperative activities.

This result supports the findings by Hou, Wang, Shi, Cheng and Yu,( 2019) that both punishments and benefits enhances cooperation.

**Table 2: Socio-economic distribution of respondents**

|  |
| --- |
| **Characteristics Frequency Percentage% Mean S.D** |
| **Age(years)**  **<**20 3 0.9 45.20 11.15  20-30 22 6.3  31-40 73 20.7  41-50 152 43.2  51 and above 102 28.9  **Total** 352 100  **Gender**  Male 218 61.9  Female 134 38.1  **Total** 352 100  **Marital Status**  Single 31 8.8  Married 275 78.1  Divorced 22 6.3  Widowed 24 6.8  **Total** 352 100  **Level of Education**  Non-Formal 83 23.6  Primary 86 24.4  Secondary 130 36.9  Tertiary 53 15.1  **Total** 352 100  **Household Size**  <5 75 21.3 7.54 4.30  5-9 192 34.5  10-14 64 18.2  15-19 12 3.4  20 and above 9 2.6  **Total** 352 100  **Annual Income**  **<**100,000 5 1.4 455,235.80 277,037.08  100,000-300,000 121 34.4  301,000-500,000 129 36.6  501,000-700,000 46 13.1  701,000 and above 51 14.5  **Total** 352 100  **Annual Savings**  < 50,000 214 60.8 72,824.59 71,626.08  50,000-100,000 68 19.3  101,000-150,000 41 11.6  151,000-200,000 12 3.4  201,000 and above 17 4.8  **Total** 352 100  **Year of Farming Experience**  1-10 80 22.7 19 9.69  11-20 135 38.4  21-30 98 y 27.8  31-40 25 7.1  41 and above 14 4.0  **Total** 352 100  **Agricultural Enterprise**  Mixed Farming 36 10.2  Crop production 143 40.6  Livestock Production 28 8  Produce Marketer 70 19.9  Agro Processor 44 12.5  Farm Input Marketer 31 8.8  **Total** 352 100  **Year of Cooperative Membership**  < 5 87 24.7 9.67 4.80  5-9 96 27.3  10-14 107 28.7  15-19 55 15.6  20 and above 13 3.7  **Total** 352 100  **Type of Agricultural Cooperative**  Agricultural Producer Coop. 118 33.5  Agricultural Marketing Coop. 71 20.2  Agricultural Consumer Coop . 12 3.4  Agricultural Thrift and Credit 20 5.7  Agricultural multipurpose 132 37.2  **Total**  352 100  **Status in Cooperative**  Yes 207 58.8  No 145 41.2  **Total** 352 100  **Frequency of Cooperative Meetings**  Weekly 73 20.7  Fortnightly 118 33.5  Monthly 149 42.4  Quarterly 12 34  **Total** 352 100  **Meeting Attendance**  Regularly 213 60.5  Rarely 132 37.5  Never 7 20  **Total**  352 100 |

**Source: Authors’ Field Survey, 2022**

**.**

## 4.2 Agricultural Activities carried out in Cooperative Societies

Table 3 presents the lists of the activities carried out by agricultural cooperatives. The table revealed that cooperative attendance (mean score 4.86) had the highest rank followed by, savings and loan, group farming, and processing of farm produce (mean score 4.58, 4.55 and 4.46) respectively. While storage facility and transportation facility (mean score 3.71 and 3.48) were the least ranked.

Cooperative meetings, savings and loans, group farming activities and processing of farm produce are the major activities carried out by cooperative societies which farmers’ participates in while storage facilities and transportation ranked maybe because most agricultural cooperative societies do not have the facilities to engage in such activities and this will limit farmers’ participation in cooperative.

This is in tandem with ( Abdulahi,et.al 2013 ) who reported that farmers’ attendance , savings and loans ,group farming and processing of members produce are major cooperative activities which farmers ‘ participates in , in their cooperative societies and Siddique, **(** 2015**)** study that concluded that it is difficult for cooperative to market and sell members produce because of the lack of storage facilities and transport facilities.

**Table 3: Distribution of respondents’ by Agricultural Cooperative Activities**

|  |
| --- |
| Activities SA A U D SD Mean Rank Freq (%) Freq(%) Freq (%) Freq(%) Freq(%) (S.D) |
| Attendance 313(88.9) 29(8.2) 8(2.3) 2(0.6) - 4.86(0.452) 1st **Savings & Loan** 214(60.8) 130(36.9) 6(1.7) 2(0.6) - 4.58(0.559) 2nd  **Group Farming** 240(68.2) 87(24.7) 9(2.6) 10(2.8) 6(1.7) 4.55(0.822) 3rd  **Processing** 218(61.9) 95(27.0) 23(6.5) 2(0.6) 14(4.0) 4.46(0.829) 4th  **Input Supply** 208(59.1) 104(29.5) 13(3.7) 23(6.5) 4(1.1) 4.39 (0.918) 5th  **Marketing of** 178(50.6) 139(39.5) 26(7.4) 9(2.6) - 4.38(0.734) 6th  **Members Produce**  **Sales of** 116(33.0) 181(51.4) 43(12.2) 9(2.6) 3(0.9) 4.13(0.784) 7th  **Essential commodities**  **Extension** 153(43.5) 113(32.1) 47(13.4) 32(9.1) 7(2.0) 4.06(1.054) 8th  **Services**  **Storage** 97(27.6) 143(40.6) 38(10.8) 60(17.0) 14(4.0) 3.71(1.158) 9th  **Facility**  **Transportation** 76(21.6) 137(38.9) 59(16.8) 41(11.6) 39(11.1) 3.48(1.258) 10th  **Facility** |

**Source: Authors’ Field Survey, 2022**

## 4.3. Level of Participation in Agricultural Cooperative society Activities.

## Table 4 used (Tadesse, Woldetsadik and Senbeta, 2017) categorization model. And the result depicts majority of the respondents in the study area (70.2%) participates moderately in cooperative activities, while (16.8%) respondents participates effectively high in their cooperative activities and (13%) had low participation in their cooperative activities.

The implication is that the respondents are not harnessing the full benefits associated with cooperative society possibly because of the challenges confronting them as cooperative members.

The result is not in support of Haruna, Attah, & Onje (2020) that stated that farmers’ in Kogi State had full participation in agricultural cooperative society activities

**Table 4: Distribution of respondents’ by Agricultural Cooperative Activities Participated in**

|  |
| --- |
| Activities 0% <1-30% 30 -<50% 50-<70% 70% and above P.I(Mean)Freq(%) Freq(%) Freq(%) Freq(%) Freq(%) SD |
| Attendance - 10(2.8) 12(3.4) 131(37.2) 199(56.5) 0.71(0.18)Group Farming 2(0.6) 32(9.1) 73(20.7) 137(38.9) 108(30.7) **Input Supply** 11(3.1) 62(17.6) 77(21.9) 114(32.4) 88(25)  **Processing** 4(1.1) 40(11.4) 94(26.7) 117(33.2) 97(27.6)  **Savings** 9(2.6) 71(20.2) 92(26.1) 92(26.1) 88(25.0)  **Marketing**  **of produce** 12(3.4) 63(17.9) 100(28.4) 92(26.1) 85(24.1)  **Sales of Essential**  **Commodities** 28 (8.0) 68(19.3) 81(23.0) 89(25.3) 86(24.4)  **Extension**  **Services** 16(4.5) 56(15.9) 89(25.3) 108(30.7) 83(23.6)  **Transportation** 8(2.3) 38(10.8) 79(22.4) 119(33.8) 108(30.7)  **Storage Facility** 7(2.0) 39(11.1) 112(31.8) 107(30.4) 87(24.7) |

**Source: Authors’ Field Survey, 2022**

**Table 5: Level of Farmers’ Participation in Cooperative Activities**

|  |
| --- |
| **Level of Participation Frequency Percentage %** |
| **Low** (< 0.53) 45 13  <Mean- SD  **Moderate** (0.53-0.89) 243 70.2  Mean –SD to Mean + SD  **High** (> 0.89)  >Mean + SD 58 16.8 |

**Source: Author’s Field Survey, 2022**

**4.4. Benefits Enjoyed by Farmers in Agricultural Cooperatives**

Table 6, presents the lists of the benefits enjoyed by farmers’ participating in agricultural cooperatives society. The table revealed that opportunity to save( mean score 4.73) takes a lead in ranking as benefit enjoyed by farmers participating in agricultural cooperative activities followed by easy access to loans , opportunity for group farming , low interest on loans ( mean score of 4.67 ,4.56, and 4.52 respectively), while education and training , enlightenment through socialization and networking ( 3.90 and 3.79 respectively were the least ranked benefits).These proved that the aforementioned beneficial factors influenced farmers to participate in cooperative society

This corroborates (Asante-Addo, Mockshell, Zeller, Siddig & Egyir, 2017) who reported that savings opportunity and access to loan increases farmers’ participation in cooperative.

**Table 6: Distribution of Respondents by Benefits Derived**

|  |
| --- |
| Benefits SA A U D SD Mean Rank Freq (%) Freq(%) Freq(%) Freq(%) Freq(%) (S.D) |
| Opportunity 224(63.6) 98(27.8) 21(6.0) 8(2.3) 1(0.3) 4.73(0.52) 1stto SaveEasy Access 247(70.2) 91(25.9) 14(4.0) - - 4.67(0.55) 2ndto loan **Group Farming** 235(66.8) 91(25.9) 17(4.8) 7(2.0) 2(0.6) 4.56(0.73) 3rd  **Low Interest** 226(64.2) 90(25.6) 31(8.8) 4(1.1) 1(0.3) 4.52(0.73) 4th  **Increased** 224(63.6) 98(27.8) 21(6.0) 8(2.3) 1(0.3) 4.52(0.74) 5th  **Production**  **Ownership** 194(55.1) 137(38.9) 19(5.4) 1(0.3) 1(0.3) 4.48(0.64) 6th  **and Control**  **Eliminate** 197(56.0) 125(35.5) 24(6.8) 6(1.7) - 4.46(0.70) 7th  **Middlemen**  **Information** 204(58.0) 110(31.3) 32(9.1) 5(1.4) 1(0.3) 4.45(0.74) 8th  **Business** 189(53.7) 135(38.4) 21(6.0) 5(1.4) 2(0.6) 4.43(0.72) 9th  **Promotion**  **Improved** 193(54.8) 122(34.7) 31(8.8) 6(1.7) - 4.42(0.72) 10th  **Product and Services**  **Dividend** 169(48.0) 162(46.0) 16(4.5) 4(1.1) 1(0.3) 4.40(0.66) 11th  **Easy** 172(48.9) 138(39.2) 37(10.5) 4(1.1) 1(0.3) 4.35(0.74) 12th **Marketing**  **Financial** 179(50.9) 128(36.4) 32(9.1) 12(3.4) 1(0.3) 4.34(0.80) 13th  **Inclusion**  **Government** 172(48.9) 136(38.6) 32(9.1) 10(2.8) 2(0.6) 4.32(0.80) 14th **Intervention**  **Increased** 121(34.4) 165(46.9) 54(15.3) 11(3.1) 1(0.3) 4.12(0.80) 15th  **Bargaining Strength**  **Employment** 144(40.9) 115(32.7) 68(19.3) 23(6.5) 2(0.6) 4.06(0.96) 16th  **Generation**  **Interaction** 125(35.5) 136(38.6) 68(19.3) 22(6.3) 1(0.3) 4.03(0.91) 17th  **Education** 100(28.4) 148(42.0) 74(21.0) 28(8.0) 2(0.6) 3.90(0.93) 18th  **and Training**  **Enlightenment** 109(31) 131(37.2) 56(15.9) 40(1.4) 16(4.5) 3.79(1.14) 19th |

**Source: Author’s Field Survey, 2022**

**4.5 Constraints limiting farmers from participating in agricultural cooperatives.**

Table 7, revealed that Low savings takes a lead in ranking (mean score 2.78) as constraints limiting farmers from participating in agricultural activities followed by timely access to loan facilities, poor management and lack of government supervision (mean score of 2.77, 2.54, and 2.53 respectively), while gender and distance (mean score of 2.06 and 1.83 respectively) were the least ranked constraints faced by the respondents. These shows that farmers do not participate effectively in cooperative societies because of the constraints they are faced with.

This is supported by the findings of Effiom, (2014) who reported the need to acquire and maintain equity and capital is the major constraints faced by cooperative societies followed by other challenges such as poor management and delayed decision making.

While, Akubuilo, Ugwu & Attah, (2020) who from their list of their perceived constraints found out that distance does not rank high in influencing farmers participation in cooperative society.

**Table 7: Constraints Limiting Farmers’ from Participating in Agricultural Cooperative Society.**

|  |
| --- |
| **Variables Major Minor Not a Mean Rank**  **Constraints Constraints Constraint (S.D)**  **Freq(%) Freq(%) Freq(%)** |
| **Low Savings** 276(78.4) 73(20.7) 3(0.9) 2.78(0.44) 1st  **Timely**  281(79.8) 60(17.0) 11(3.1) 2.77(0.49) 2nd  **Access to loan**  **Poor** **Management** 214(60.8) 114(32.4) 24(6.8) 2.54(0.62) 3rd  **Government** 202(57.4) 134(38.1) 16(4.5) 2.53(0.58) 4th  **Supervision**  **Decision Making** 226(64.2) 83(23.6) 43(12.2) 2.52(0.70) 5th  **Loan Default**  214(60.8) 106(30.1) 32(9.1) 2.52(0.66) 6th  **Storage Facility** 224(63.6) 73(20.8) 55(15.6) 2.49(0.76) 7th  **Poor** 201(57.1) 120(34.1) 31(8.8) 2.48(0.65) 8th  **Extension Services**  **Input Supply** 187(53.1) 140(39.8) 29(8.2) 2.46(0.62) 9th  **Marketing and** 183(52) 140(39.8) 40(11.4) 2.44(0.64) 10th  **Processing**  **Poor Transportation**179(50.9) 133(37.8) 40(11.4) 2.39(0.68) 11th  **Poor Information** 190(54) 101(28.7) 61(17.3) 2.37(0.76) 12th  **and Communication**  **Guarantor** 168(47.7) 130(36.9) 54(15.3) 2.32(0.73) 13th  **Beaurecratic** 153(43.5) 147(41.8) 52(14.8) 2.29(0.71) 14th  **Bottleneck**  **Moral Hazard** 155(44) 131(37.2) 66(18.8) 2.25(0.75) 15th  **Interest Rate** 150(42.6) 124(35.2) 78(22.2) 2.20(0.78) 16th  **Failure and** 144(40.9) 127(36.1) 1(23.0) 2.18(0.78) 17th  **Eventual Close Down**  **Gende**r 138(21.4) 92(26.2) 122(34.7) 2.06(0.88) 18th  **Distance** 78(22.2) 136(38.6) 138(39.2 1.83(0.77) 19th |

**Source: Authors’ Field Survey, 2022**

**4.6 Hypothesis Testing**

**4.6 Hypothesis Testing**

**4.6.1 Analysis of the** **Relationship between Selected Socioeconomic Characteristics**

**4.6.2** **Modal Fitting Information for Selected Socioeconomic Characteristic**

Table 8, shows that (P<0.05) indicating that the model is a good and the null hypothesis can be rejected.

**Table 8: Model Fitting Information for Selected Socioeconomic Characteristic**

|  |
| --- |
| **Model -2 Log Likelihood Chi-Square Df Sig** |
| **Intercept Only** 586.311  **Final** 524.117 62.194 17 .000 |

## Source: Field Survey, 2022

**4.6.3****. Goodness of Fit for Selected Socioeconomic Characteristic**

Table 9, shows Pearson Chi Square (X2(685) = 722.949, P = 0.153) and Deviance is (X2(685) = 524.117, P = 1.000.) Therefore, we reject the null hypothesis because they are both not significant and conclude the model is a good fit

**Table 9: Goodness – of –****Fit for Selected Socioeconomic Characteristic**

|  |
| --- |
| **Variable Chi-Square Df Sig** |
| **Pearson** 722.949 685 .153  **Deviance**  524.117 685 1.000 |

## Source: Authors’ Field Survey, 2022

**4.6.4**. **Test of Parallel Lines for Selected Socioeconomic Characteristic**

The result shows (P = 0.78) the result is not significant and the assumption of the proportional odds is satisfied.

**Table 10:** **Test of Parallel Lines for Socioeconomic Characteristics**

|  |
| --- |
| **Model -2 Log Likelihoodb Chi-square Df Sig** |
| **Null** 524.117  **Hypothesis** 498.323b 25.794c 17 0.78  **General** |

## Source: Field Survey, 2022

**4.6.5.** **Ordinal Logistic Regression Result of the Selected Socioeconomic Characteristic**

Results in Table 11, shows that Age (P = 0.27, β= -0.005), marital status 1 (single) (P= 0115, β=0.242) and year of farming experience 1(1-10years) (P= 0.109, β=0.708) are not significant. This infers they are not relative predictor in this model.

However, gender (male) is found to be negatively significant (P = 0.022, β = -0.142 and OR = 0.868) and female (1) is the reference category. The result shows that the odds of participating high in cooperative society activity for male farmers is (-0.142) times less than that of female farmers. The odds ratio (0.868) indicates that male farmers are less likely to fall into a higher level of participation compared to female farmers in the study area, when all other independent variable are held constant. That is female farmers participated more in cooperative society activities than male farmers’.

This may be because of the zeal of the women farmers to meet their needs in other to have increased farm production.

This result conscience with the findings of Akpama & Okeme, (2018) who stated that women farmers have the highest number of memberships in Nigeria and they participate in various agricultural cooperative activities in other to have a better life.

Table 11, further reveals that year of education (P = 0.000,β = 0.26 and OR = 1.027)has a positive significant relationship. That is, for every one unit increase in the year of education, there is an expected increase in the log odds (0.26) of farmers participating in cooperative society activities while, the cumulative odds of participating in the higher level of cooperative society activities was 1.027 times more likely compared to participating in the lower category when all other variables are held constant.

The implication of the above result is that education will make farmers’ to be better informed and make good decisions therefore an increase in education will increase farmers’ participation in their cooperative activities.

This result corroborates (Awotide, Awoyemi & Fashogbon, 2015) that concluded that education influences farmers participation in cooperative.

Household size of the farmers was also found to be positively significant (β = 0.112, P = 0.010 and OR = 1.118).This indicated a positive significant relationship and for every one unit increase in household size there is a predicted increase of (0.112) in the log odds of a farmer participating in cooperative society activities, and the cumulative odds of participating in the higher level of cooperative society activities was (1.118) more likely compared to the lower category, when all other independent variable are held constant. This implies that the more the household size of the farmer the higher his level of participation.

This could be because farmer with a higher household size has more hands available for labor and can participate more in cooperative activities without hindrances.

This result is in tandem with Msimango & Oladele, (2013) findings that household size influences farmers’ productivity and participation in agricultural cooperative.

Marital status (2) married (P= 0.007, β =0.309 and OR = 1.362).That is farmers that are married are 1.362 times more likely to be in high level of participation compared to those that are widowed, when all other independent variable are held constant

Marital Status (3) divorced (P= 0.029, β = 0.332, and OR = 1.394). That is farmers that are divorced are 1.394 times more likely to be in high level of participation compared to those that are widowed when all other independent variable are held constant.

However, the result shows that the odd ratio of divorced farmers (marital status 3) is higher than the odds ratio married (marital status 2) that means farmers that are divorced in Kogi State participated more in agricultural cooperative activities than their married counterpart and this could be because divorced farmers had more responsibilities to carry than married farmers and they tend to be more involved in cooperative activities so as to harness its benefit and also, farmers that are not in a marriage contract takes decision faster and solely than their married counterpart.

This is in tandem with Desta, Haddis & Atakit (2006) that household headed by females have advantages such as freedom of mobility, more educated and participate more in multiple community groups.

Furthermore result in table 11, shows that annual income is found to be positively significant. (β = 1.355E-006, P = 0.017 and OR = 1). For every one unit increase in the annual income of the respondents there is a little increase of (1.355E-006) however the log ratio (1) indicate that participating in a higher level of cooperative activity is the same as participating in the lower level of cooperative activities, when all other independent variable are held constant

This means that annual income of farmers can either make them participate higher in cooperative activities especially when farmers’ income is as a result of the benefit enjoyed in the cooperative or it might make them participate in the lower category especially when their annual income is not generated via cooperative benefits but from other means or when there is low disbursement of loans to farmers.

This is corroborated by Vuong, Tran, Dang & Mai (2021) findings that farmers who had enjoyed cooperative benefits from their cooperatives and had increased income participated higher in cooperative activities and Jongur (2011) concluded that cooperative credit negatively impacts farmers income as a result of small loan disbursement which added no value to small farmer cooperators, farmers then resolved to search for other source of funds

As shown in table 11, year of farming experience 1(1-10years) is not significant however, year of farming experience 2(11-20 years) shows a positive significant relationship (P= 0.037, β = 0.542, and OR = 1.719).That is farmers with 11-20 years farming experience are 1.719 times more likely to be in high level of participation compared to those with 41 years and above farming experience when all other independent variable are held constant

Years of farming experience (3) “21-30” years” shows a positive significant relationship (P = 0.017, β = 0.587 and OR = 1.799).That is farmers with 21-30 years farming experience are 1.799 times more likely to be in high level of participation compared to those with 41 years and above farming experience when all other independent variable are held constant

Also, data obtained from Table 11 shows that year of farming experience (4) “31-40” years” shows a positive significant relationship (P= 0.002, β = 0.717 and OR = 2.048).That is farmers with 31-40 years farming experience are 2.048 times more likely to be in high level of participation compared to those with 41 years and above farming experience when all other independent variable are held constant.

However, years of farming experience (4) (31-40 years) shows the highest odds rating which depicts that the farmers who have had longer years between 31 to 40 years farming experience participated more in cooperative society activities this could be because they have acquired more knowledge and skills over the years and they will adopt innovation that will help boost their production than farmers that do not have longer years of farming experience.

This result is in consonance with Adefila & Madaki (2014) that concluded that farmers that has more years of farming experience will likely adopt innovation and techniques that will boost their agricultural productivity.

Finally, Table 11, shows that years of cooperative members with (P= 0.000, β = 0.026, OR = 1.027). has a positive significant relationship, therefore, for every one year increase in the year of cooperative experience there is a predicted increase of (0.026) in the log odds of a farmers participating high in cooperative society activities and the odds ratio of participating in the higher category is (1.027) times more likely compared to the lower category when all other independent variable are held constant. This implies that the higher the years of cooperative membership the higher the level of participation because being in the cooperative for longer years the farmer already has emotional attachment and the farmer also understands the cooperative structure and benefits well.

This is in consonance with Sofoluwe , Ogunola & Hassan (2020) who that being in an organization like a cooperative society for a long time will make the member to develop affective and emotion feeling that brings a sense of belonging to the member.

**Table 11: Ordinal Logistics Regression Result of Selected Socioeconomic Characteristics**

|  |
| --- |
| **Variable Estimate (β) Std.Error Df Sig. Exp.(β)** |
| **Age** -0.005 0.0046 1 0.277 0.995  **Gender**  **(Male)** -0.142 0.6170 1 0.022 0.868  **(Female)** 0a 1  **Year of** 0.26 0.0065 1 0.000 1.027  **Education**  **Household Size** 0.112 0.4340 1 0.010 1.118  **Marital Status**  **(Single)** 0.242 0.1536 1 0.115 1.274  **(Married)** 0.309 0.1136 1 0.007 1.362  **(Divorced)** 0.332 0.1522 1 0.029 1.394  **(Widowed)** 0a 1  **Annual** 1.355E-006 5.6751E-007 1 0.017 1  **Income**  **Farming Exp.**  **(1-10**) 0.708 0.2737 1 0.010 2.029  **(11-20)** 0.542 0.2597 1 0.037 1.719  **(21-30)** 0.587 0.2471 1 0.017 1.799  **(31-40)** 0.717 0.2303 1 0.002 2.048  **(41 and above)** 0a  1  **Year of** 0.026 0.0065 1 0.000 1.027  **Cooperative Experience** |

Significant at 5%

**Source: Authors’ Field Survey, 2022**

**4.7.** **Analysis between Agricultural Cooperative Activities**

**4.7.1.** **Model Fitting Information for Activities Carried Out in Agricultural Cooperative Society**

The table 12, shows (P<0.05). Therefore the model is a very good finding on how it fits the data.

**Table 12. Model Fitting Information** **for Activities Carried out in Agricultural Cooperative Society**

|  |
| --- |
| **Model -2 Log Likelihood Chi-Square Df Sig** |
| **Intercept Only** 157.193  **Final** 144.677 12.515 1 .000 |

**Source: Authors’ Field Survey, 2022**

**4.7.2 Goodness- of –Fit for Activities Carried out in Agricultural Cooperative Society**

Table 13, below shows the result of the Pearson Chi –Square (X2 (43) = 51.374, p=0.178) and Deviance (X2(43) = 57.348, p=0.070) are non - significant, and this suggests a well-fitting model.

**Table 13:** **Goodness -of –Fit for Activities Carried out in Agricultural Cooperative Society**

|  |
| --- |
| **Variable Chi-Square Df Sig** |
| **Pearson**  15.374 43 0.178  **Deviance** 57.348 43 0.70 |

## Source: Authors’ Field Survey, 2022

**4.7.3** **Test of Parallel Lines for Activities Carried Out in Agricultural Cooperative Society**

The test of parallel lines suggested that proportional odds assumption is satisfied (p= 0.485).

T**able 14:** **Test of Parallel Lines for activities carried out in Agricultural Cooperative Society**

|  |
| --- |
| **Model -2 Log Likelihood Chi-Square Df Sig.** |
| **Null**  208.933  **Hypothesis** 208.445b 0.488 1 0.485  **General** |

## Source: Authors’ Field Survey, 2022

**4.7.4. Result of the Relationship between Activities Carried Out in Agricultural Cooperative Society**

Result in table 15 , shows that the activities carried out by cooperative societies in Kogi State , is positively significant. (P value = 0.000).

Therefore for every one unit increase in cooperative activities, there is an expected increase of (0.080) in the log odds of farmers participating high in cooperative society activities and the cumulative odds of being in the higher level of cooperative participation is (1.083) more likely compared to being at the lower level of participation.

This is because cooperative activities are set up to meet members needs and when farmers knows that the activity is set to meet his needs he tends to participate more.

This result corresponds with the result from Ogunleye, Oluwafemi, Arowolo, and Odegbile, (2017) that concluded that farmers participate in cooperative activities because of the risk involved in farming and they need help from the cooperative.

**Table 15:** **Ordinal Logistic Regression Analysis between Activities carried out by Agricultural Cooperative Society**

|  |
| --- |
| **Variable Estimate Standard Error Df P-Value OR** |
| **Activities**  0.080 0.251 1 0.000 1.083 |

Significant at 5%

## Source: Authors’ Field Survey, 2022

**4.8. Linear Regression Analysis of the Relationship between the Constraints Faced by Farmers in Agricultural Cooperative Society**

Linear regression result in table 16 depicts that the constraints faced by farmers’ in agricultural cooperatives in Kogi State had negative significance on their level of participation in cooperative activities. (P = 0.000).That is the more the constraints faced by farmers’ in the cooperative the lower their participation in cooperative society activities.

This implies that the listed constraints are germane constraints limiting farmers’ participation therefore the constraints needs to be addressed for effective participation.

This confirms with the findings by Msimango & Oladele (2013) that constraint discourages farmers’ from participating in agricultural cooperatives. Also Abdulahi et.al. (2013) concluded that constraints are serious threat to members’ participation and overall success of the cooperative.

**Table 16: Test of relationship between the constraints faced by farmers in agricultural cooperative society**

|  |
| --- |
| **Variable Coeff** (β) **Standard Error Df Sig** |
| **Constraints**  -0.159 0.016 1 0.000\*\*\* |

Variable significant at 1%

## Source: Authors’ Field Survey, 2022

**CHAPTER FIVE**

* 1. **SUMMARY, CONCLUSION AND RECOMMENDATIONS**
  2. **. Summary of Findings**

The main objective of the study is to assess farmer’s participation in cooperative society in Kogi State, Nigeria. However the specific objective of the study were to describe socioeconomic characteristics of farmers' engaged in Agricultural cooperative society, determine activities of farmers’ participating in Agricultural cooperative society, determine the level of farmers participation in Agricultural cooperative activities, describe the benefit derived from participating in Agricultural cooperative society and also to identify constraints faced by the farmers' limiting them from participating in Agricultural cooperative society;

The hypothesis of the study was in null form, multistage sampling technique was used in selecting the study population. Frequency tables, percentages, means, standard deviation and ranks were used as descriptive statistics in analyzing the data, while inferential statistics such as ordinal logistic regression (proportional odds ratio) and linear regression were used in testing thee hypothesis.

The result obtained revealed that the respondents mean age was 45years, (61.9%) of the respondents’ were male farmers, (36.9%) had secondary education, while the major agricultural enterprise engaged by farmers is crop production (40.6%). The mean income and savings of the respondent were N455, 235.80 and N 72,824.59respectively. The mean household size was 8, while (38.4%) of the respondents’ had between 11 – 20 years farming experience.(37.2 %) were members of agricultural multipurpose cooperatives, (58.8%) agreed that their status within the cooperative influences their level of participation.(28.7%) of the respondent had between 10-14 years cooperative experience ,(42.3%) had their cooperative meetings monthly ,while, majority of the respondents had (60.5%) regular attendance at cooperative meetings.

From the list of cooperative activities carried out, cooperative attendance ranked 1st followed by, savings mobilization and loans, group farming ranked 2nd and 3rd respectively.

The result also showed that majority of the farmers’ had moderate participation in cooperative activities (70.2%).

Result obtained also revealed that opportunity to save, easy access to loan and group farming were the highest ranked benefit enjoyed by farmers, while low savings, timely assessment of loan, poor management ranked 1st, 2nd and 3rd highest constraints respectively .

The ordinal Logistic regression analysis for hypothesis one shows there was no significant relationship between age and marital status 1 (single)and year of farming experience 1(1-10years) . However there was negative significant relationship between gender and level of farmers’ participation in cooperative activities while year of education, household size , marital status 2 and 3, year of cooperative experience had a positive relationship.

Ordinal Logistic regression analysis for hypothesis two shows that type of activities carried out is positively significant with level of participation in cooperative activities

While, linear regression result for hypothesis three revealed that there is a negative significance between the constraints faced by farmers and the level of participation.

* 1. **CONCLUSION**

1. The study concludes that farmers in Kogi State had moderate participation in cooperative society activities.
2. The activities cooperative societies engaged in influences the level of farmers’ participation in cooperative activities.
3. Low savings and inability to assess loan were the highest ranked constraints.
4. Education and training is ranked one of the lowest benefit enjoyed by farmers.
5. The study showed that farmers hardly benefitted from government intervention.
6. Decision making was a constraint that limits participation that means most cooperatives do not involve every of their members while taking decisions.
7. Farmers’ find it difficult to pay back their loans.
8. The presence of extension services in agricultural cooperative society was low

**5.3 RECOMMENDATION**

1. Agricultural Cooperative societies should engage in activities that will align with farmer’s needs in the study area.
2. Educated members should be elected as leader.
3. Cooperative society management should consult private extension service provider to give their members training.
4. Decision should be made collectively by all members.
5. Emphasis’s should be placed on savings and timely repayment of loan
6. Government agencies should organize trainings and seminars for farmers regularly.
7. Government should create a ministry in charge of cooperative societies across local governments that will be close to the rural farmers.
8. Storage facilities should be built across local government that cooperative societies can rent to keep members produce.

**5.4 CONTRIBUTION TO KNOWLEDGE**

1. This study documents the socio economic characteristic of farmers were documented in the study
2. Information on the benefit enjoyed by farmers in cooperative society was provided by the study
3. The study provided quantitative data for the level of farmers’ participation in cooperative activities
4. The study investigated the relationship between the activities carried out in the cooperative and level of farmers’ participation in their cooperative activities.
5. The study investigated the constraints limiting farmers from participating in cooperative activities
6. The study investigated the type of cooperative society prominent in Kogi

State.

1. The study documented how the level of participation is affected by farmer’s

status within the cooperative.

**5.5 SUGGESTION FOR FURTHER READING.**

1. Determine the relationship between annual income and farmers’ level of participation in agricultural society.

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**APPENDIX I**

**TIME –LINE -CHART**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ACTIVITIY** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** |
| Information gathering and Proposal writing | ----- | ----- | ---- |  |  |  |  |  |  |  |  |  |
| Questionnaire design |  |  |  | ----- |  |  |  |  |  |  |  |  |
| Administration of Questionnaire |  |  |  | ----- | ----- |  |  |  |  |  |  |  |
| Coding of questionnaire |  |  |  |  |  | ---- | ---- |  |  |  |  |  |
| Analysis |  |  |  |  |  |  |  | ---- |  |  |  |  |
| Report writing |  |  |  |  |  |  |  |  | ---- |  |  |  |
| Post-field Presentation |  |  |  |  |  |  |  |  |  | ------ | ----- |  |
| Wrapping up of research work |  |  |  |  |  |  |  |  |  |  |  | ----- |

**APPENDIX II**

**DEPARTMENT OF AGRICULTURAL EXTENSION AND RURAL DEVELOPMENT, FACULTY OF AGRICULTURE, LANDMARK UNIVERSITY, OMU-ARAN, KWARA STATE**

**PROJECT TITLE: ASSESSMENT OF FARMERS PARTICIPATING IN AGRICULTURAL COOPERATIVE SOCIETY IN KOGI STATE, NIGERIA.**

NOTE: This questionnaire seeks information from farmers in agricultural cooperative societies in Kogi State, Nigeria.

**QUESTIONNAIRE NUMBER: …………................................................................**

**DATE OF INTERVIEW: ……………………………………………………………**

**LOCAL GOVERNMENT AREA (LGA): ……………………………………….. .**

**VILLAGE NAME: ………………………………………………………………….**

**NAME OF COOPERATIVE ………………………………………………………..**

**NAME OF ENUMERATOR: ……………………………………………………….**

**INSTRUCTIONS**

a. Farmers’ are expected to kindly answer all questions sincerely. The information given will be confidential and used only for the purpose of research

b. Kindly write down your responses as applicable and indicate your choice by ticking the box provided

**SECTION ONE: SOCIO-ECONOMIC CHARACTERISTIC OF FARMERS**

1. Age ………………… years
2. Sex: a. Male( ) b. Female ( )
3. Marital Status : a. Single ( ) b. Married ( ) c. Divorced ( ) d. Widowed ( )
4. Year of Education ………………years
5. Educational qualification :……………………a.Non-formal education ( ) b. Primary education ( ) c. Secondary education ( ) d. Post secondary ( )
6. Which of these is major Agricultural Enterprise you are in to: a. Mixed farming () b. Crop Production ( ) c. Livestock Production ( ) d. Agricultural Produce marketing ( ) e. Agro – Processing ( ) f. Farm Input Marketing ( )
7. State your annual income …………………Naira
8. What is your annual cooperative savings ……………………….Naira
9. Household size: ………………….
10. Years of farming experience:…………………………………..
11. Type of agricultural cooperative you belong to

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Agricultural Producer Cooperative  ( 1) | Agricultural Marketing Cooperative  ( 2) | Agricultural Consumer Cooperative  ( 3) | Agricultural Thrift and Credit Cooperative  ( 4) | Agricultural Multipurpose Cooperative  (5) |
|  |  |  |  |  |

1. Does your status in the cooperative affect your commitment to the cooperative. a. Yes ( ) b. No ( ).
2. State your frequency in attending cooperative meetings. a. Regularly ( ) b. Rarely ( ) c. Never ( ).
3. What is the duration of your membership in the Agricultural Cooperative?.........................................
4. Frequency of cooperative hold meetings? a. Weekly ( ) b. Forth nightly ( ) c. Monthly ( ) d. Quarterly ( )

**SECTION TWO: THE ACTIVITIES OF FARMERS IN AGRICULTURAL COOPERATIVE SOCIETY**

16. Respond to the following using Likert-type Scale to measure your level of agreement to these statements as integral part of activities of the cooperative society

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Activities of Agricultural Cooperative  Society | Strongly Agree  (5) | Agree  ( 4) | Undecided  (3) | Disagree  (2) | Strongly Disagree  (1) |
| a. | Group farming activities |  |  |  |  |  |
| b. | Savings contribution and loan disbursement |  |  |  |  |  |
| c. | Supplies of farm inputs to members |  |  |  |  |  |
| d. | Members produce processing |  |  |  |  |  |
| e. | Marketing of members’ produce |  |  |  |  |  |
| f. | Provision of storage materials |  |  |  |  |  |
| g. | Payment of cooperative dues |  |  |  |  |  |
| h. | Transport services for members |  |  |  |  |  |
| i. | Providing extension services, training, seminars, workshops and demonstration to members |  |  |  |  |  |
| j. | Essential commodity sales to members |  |  |  |  |  |
| k. | Cooperative attendance |  |  |  |  |  |

**SECTION THREE: LEVEL OF FARMERS’ PARTICIPATION IN COOPERATIVE ACTIVITIES**

17.Indicate the level of participation in Agricultural Cooperative activities

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Activities | If members do not attend /participate in cooperative activities ( 0) | If members attend or participate in <30% of cooperative activities (1) | If member attends or participates between 30-<50% in cooperative activities (2) | If members attends or participates between 50-<70% of cooperative activities (3) | Member attends or participates in all cooperative activities 70% and above (4) |
| a. | Group farming activities |  |  |  |  |  |
| b. | Savings mobilization and loan disbursement |  |  |  |  |  |
| c. | Agricultural inputs supply to members |  |  |  |  |  |
| d. | Members’ farm produce processing |  |  |  |  |  |
| e. | Marketing of members’ farm produce |  |  |  |  |  |
| f. | Provision of storage facilities |  |  |  |  |  |
| g | Payment of cooperative dues |  |  |  |  |  |
| h. | Transport Services for members |  |  |  |  |  |
| i. | Provision of extension services, training, seminars, workshop and demonstration |  |  |  |  |  |
| j. | Essential commodity sales to members |  |  |  |  |  |
| k | Cooperative attendance |  |  |  |  |  |

**SECTION FOUR: BENEFITS DERIVED FROM THE COOPERATIVE**

18. State your level of agreement to the statements below on benefits derived from participating in agricultural cooperative society in your community

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Benefits derived** | SA(5) | A(4) | U(3) | D(2) | SD(1) |
| 1. | Increased Production |  |  |  |  |  |
| 2. | Opportunity for savings |  |  |  |  |  |
| 3. | Easy access to non-stressful |  |  |  |  |  |
| 4. | Low interest on loan |  |  |  |  |  |
| 5. | Information sharing among members |  |  |  |  |  |
| 6. | Interest and dividends from savings |  |  |  |  |  |
| 7. | Opportunity for cooperative farming |  |  |  |  |  |
| 8. | Enables farmers improve product and service quality reducing risks |  |  |  |  |  |
| 9. | It increases bargaining strength of the cooperators |  |  |  |  |  |
| 10. | It’s employment generating through worker-ownership, women empowerment , joint labour contracting |  |  |  |  |  |
| 11. | Rural farmers’ financial inclusion |  |  |  |  |  |
| 12. | It makes marketing of member’s products easy and possible |  |  |  |  |  |
| 13. | One enjoys education and training through adult education, seminars, workshops, and demonstrations |  |  |  |  |  |
| 14. | Government intervention through easy access to procurement of production inputs, equipment, services, processing, storage and transport facilities at subsidized rate |  |  |  |  |  |
| 15. | Enlightenment through socialization and networking |  |  |  |  |  |
| 16. | It promotes members to starting their businesses and have it funded easily. (business promotion) |  |  |  |  |  |
| 17. | It enables the farmers to own and control business enterprises for procuring supplies and services |  |  |  |  |  |
| 18. | It helps to eliminate unnecessary profits of middlemen and exploitations |  |  |  |  |  |
| 19. | Opportunity to interact with other members |  |  |  |  |  |

**SECTION FIVE: CONSTRAINTS OF FARMERSIN PARTICIPATING IN AGRICULTURAL COOPERATIVE**

19.Pleaserespond to the statements below as to gravity of constraints the farmers face in participating in Agricultural Cooperative Society

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/N | CONSTRAINTS OF FARMERS AS THEY PARTICIPATE IN AGRICULTURAL COOPERATIVE SOCIETY | Major Constraints,  (3) | Minor Constraints  (2) | Not a constraint  (1) |
| 1. | Problem of accessing loans as at when due |  |  |  |
| 2. | Low savings resulting to inadequate finance to fund projects. ( Inadequate capital resources) |  |  |  |
| 3. | Lack of committed members to stand as guarantors in securing loans |  |  |  |
| 4. | Default in repayment of loans |  |  |  |
| 5. | Bureaucratic bottleneck due to corruption in getting qualified for loan and obtaining it |  |  |  |
| 6. | Distance of cooperative meeting place to one’s farm |  |  |  |
| 7. | High interest rate on loan |  |  |  |
| 8. | Access to marketing and processing services |  |  |  |
| 9. | Access to input supplies |  |  |  |
| 10. | Poor management experience |  |  |  |
| 11. | Moral hazards ( inability to hold management accountable for financial irregularity |  |  |  |
| 12. | Gender inequality |  |  |  |
| 13. | Inefficient government supervision |  |  |  |
| 14. | Inadequate storage facilities |  |  |  |
| 15. | Poor transportation facilities |  |  |  |
| 16. | Poor information and communication among members resulting into disloyalty, poor commitment, lack of members participation in cooperative activities |  |  |  |
| 17. | Failure and close down of such association |  |  |  |
| 18. | Members not involved in decision making |  |  |  |
| 19. | Poor extension services |  |  |  |