

**FACTORS INFLUENCING FARMERS' ATTITUDE AND PARTICIPATION IN
COMMUNITY-BASED AGRICULTURE AND RURAL DEVELOPMENT
PROGRAMME (CBARDP) IN SELECTED AREAS OF KADUNA STATE**

BY

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DECLARATION

I hereby declare that this dissertation titled “**Factors Influencing Farmers’ Attitude and Participation in Community-Based Agriculture and Rural Development Programme (CBARDP) in Selected Areas of Kaduna State**” has been written by me and it is a record of my research work. No part of this work has been presented in any previous application for another Degree or Diploma in this or any other institution. All borrowed information have been duly acknowledged in the text and a list of references provided.

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CERTIFICATION

This dissertation titled '**Factors Influencing Farmers' Attitude and Participation in Community-Based Agriculture And Rural Development Programme (CBARDP) in Selected Areas of Kaduna State**', by Perpetua Ogboogu, **ORJI** meets the regulations governing the award of degree of Master of Science in Agricultural Extension and Rural Sociology of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This dissertation is dedicated to Almighty God, the giver of wisdom and knowledge.

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TABLE OF CONTENTS

CONTENTS	Page
TitlePage.....	i
Declaration.....	ii
Certification	iii
Dedication	iv
Acknowledgements	v
Table of Content.....	vii
List of Tables	xi
List of Figures	xii
List of Appendices.....	xiii
Abstract	xiv
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1 Background to the Study	1
1.2 Statement of the Problem.....	3
1.3 Objectives of the Study	5
1.4 Justification of the Study	6
1.5 Hypotheses of the Study.....	7
CHAPTER TWO.....	8
LITERATURE REVIEW...	8
2.1 People’s Attitude and Change.....	8
2.2 Formation and Change of Attitude.....	9

2.3	Overview of Community Agriculture and Rural Development in Nigeria.....	9
2.4	The concept of Participation.....	11
2.5	Extent of Participation in Poverty Eradication Programmes.....	12
2.6	Factors Influencing Participation in Development Programmes.....	13
2.7	Community Based Agriculture and Rural Development Programme (CBARDP).....	14
2.8	Perspective on Rural Infrastructure Strategy for Socio-Economic Development.....	15
2.9	Perspectives on Rural Development.....	16
2.10	Theoretical Framework.....	16
2.10.1	The Theory of Social Change.....	16
2.11	Conceptual Model.....	17
 CHAPTER THREE.....		19
METHODOLOGY.....		19
3.1	The study Area.....	19
3.2	Sampling Procedure and Sample Size.....	21
3.3	Data Collection.....	21
3.4	Analytical Techniques.....	22
3.4.1	Descriptive Statistics.....	22
3.4.2	Multiple regression analysis.....	22
3.4.3	Paired t-test statistics.....	23
3.5	Definition and Measurement of variables.....	23
3.5.1	Measurement of Independent Variables.....	23
3.5.2	Measurement of Dependent Variables.....	25

CHAPTER FOUR	27
RESULTS AND DISCUSSION	27
4.0 Introduction.....	27
4.1 Socio-economic characteristics of farmers participating in CBARDP....	27
4.1.1 Sex of respondents.....	27
4.1.2 Age of respondents.....	28
4.1.3 Marital Status	29
4.1.4 Educational Status.....	30
4.1.5 Household size.....	31
4.1.6 Farm size.....	32
4.1.7 Mode of land acquisition.....	33
4.1.8 Cooperative membership.....	34
4.1.9 Extension contact	35
4.1.10 Access to credit.....	36
4.2 Farmers' attitudes towards Community Based Agriculture and Rural Development Programme (CBARDP).....	37
4.3 Level of farmers' participation in Community-Based Agriculture and Rural Development Programme (CBARDP).....	41
4.4 Factors influencing farmers' attitude and participation in CBARDP.....	42
4.5 Effect of participating in CBARDP on yield and income of farmers.....	47
4.6 Constraints to effective participation of farmers in CBARDP.....	49
CHAPTER FIVE	51
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	51
5.1 Summary.....	51
5.2 Conclusion.....	53

5.3	Recommendations.....	54
5.4	Contribution to knowledge.....	55
5.5	Suggestions for further research.....	56
	REFERENCES.....	57

LIST OF TABLES

Table	Page
Table 3.1: Distribution of respondents in the study area	21
Table 4.1: Sex of the respondents.....	28
Table 4.2: Age of the respondents.....	29
Table 4.3: Marital status of the respondents.....	30
Table 4.4: Educational level of the respondent.....	31
Table 4.5: Household Size of the respondent.....	32
Table 4.6: Farm Size of the respondent.....	33
Table 4.7: Mode of land acquisition;.....	33
Table 4.8: Cooperative Membership.....	34
Table 4.9: Distribution of respondent based extension contact.....	36
Table 4.10: Access to credit.....	36
Table 4.11: Distribution of respondent based on their attitude toward CBARDP in the Study Area.....	40
Table 4.12: Respondent Sources of awareness of CBARDP and participation in CBARDP.....	42
Table 4.13: Socio-economic and institutional factors influencing farmers' attitude towards CBARDP.....	44
Table 4.14: Socio-economic and institutional factors influencing farmers' Participation in CBARDP in the stud area.....	46
Table 4.15: Effect of participating in CBARDP on yield and income of Farmers.....	48
Table 4.16: Constraint for effective of respondent in CBARD Programme...	50

LIST OF FIGURES

Figure		Page
Figure 2.1:	A model of factors influencing farmers' attitudes and participation in Community-Based Agriculture And Rural Development Programme (CBARDP).....	18
Figure 3.1:	Map of Kaduna state Showing the study Area.....	20

LIST OF APPENDICES

Appendices	Page
Appendix I: Research Questionnaire.....	63

ABSTRACT

The study was designed to assess factors influencing farmers' attitude and participation in CBARDP in Selected Local Government Areas of Kaduna State. Two Local Government Areas (L.G.A.s) were purposively selected and three villages from each of the L.G.A.s were randomly selected. Fifteen percent of the participants were then randomly selected using lottery method to obtain a sample size of 189 respondents. Data was collected through the use of a structured questionnaire and analyzed using descriptive statistics, multiple regression analysis and paired t-test. The results showed that majority (94%) of the participants were male. About 34% of the participants were of the age range of 41-50 years, 86% were married with 54% having a household size range of 1-5 persons and 50% having no formal education. The attitude of the participants towards CBARDP was positive and their participation was moderate. The significant factors that influenced the attitude of the farmers towards CBARDP were education, extension contact, access to credit and marital status while age, education, extension contact, membership of associations and access to credit were positively and significantly influential on farmers' participation in CBARDP. The estimated average annual yield increased from 1340.04kg/ha before the participation to 2087.25kg/ha after the participation. The average annual income also increased from ₦111,459 before the participation to ₦193,903.70 after participation. The study was anticipated to give a picture of the success and constraints of the programme and also provide measures for areas of improvement. It was recommended that a similar programme should be organized in all the Local Government areas of the state by Government and non-governmental agencies so as to improve farmers' welfare and level of living.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The Nigerian rural sector with abundance of human and natural resources accommodates 49.7 % of the nation's population (World Bank, 2011). It is also estimated that 85% of the extremely poor people in Nigeria currently live in rural areas (World Bank, 2011). The low performance of agricultural sector in rural areas does not only threaten their livelihood but also affects the production capacity of the natural resource base, accelerates environmental degradation and fails to address poverty and malnutrition (Ashley and Maxwell 2011). In order to enhance the performance of agricultural sector, government in Nigeria has introduced several programmes that include Community-Based Agricultural and Rural Development Programme (CBARDP).

Attitude and participation are two important issues in CBARDP and other agricultural development programmes. They are critical for successful and accepted programmes because they facilitate development plans. The attitude of the people determine whether the expected outcome in a development process will be favourable or unfavourable. Change in attitude has to do with other personality characteristics such as susceptibility to persuasion, intelligence and readiness to accept change. People are always adopting, modifying, and relinquishing their attitude to fit their ever changing needs and interests. Change in people's attitude depends on who is presenting the knowledge, how it is presented, the credibility of the communicator and the condition by which the knowledge was received (Hallorah, 1967). The employment of more qualified and experienced extension workers, especially subject matter specialists and the adoption of

farmer first approach to agricultural research and development have therefore been recommended for farmers to show a positive attitude towards the extension service (Oladosu,2006).

Farmers' participation in the development process has in recent years become increasingly popular especially in development programmes such as CBARDP that are geared towards poverty reduction. In the words of Parfitt (2004), "it is clear that participation has become one of the central influences in mainstream development thinking". The concept of participation has taken the characteristic of a panacea". This was as a result of failure of the conventional, blue-print or 'top-down' approach that placed emphasis on the transfer of innovation to adequately address rural developmental challenges without the involvement of beneficiaries in the development process (Dichter, 2003). Igbal (2007) added that most agricultural projects fail because when projects are designed, farmers' culture or socio-economic characteristics are not considered which lead to inability of outside agents to recommend appropriate technologies that are compatible with the target groups. In such development approaches farmers are often seen as 'objects' as opposed to being 'subjects' in the development process. As such, participation of beneficiaries was passive in the achievement of predetermined objectives. In contrast, the people-centered or the bottom-up approach places emphasis on peoples' participation in the development process with a view to empowering them for future self-development initiatives.

The Community Based Agricultural and Rural Development Programme (CBARDP) in Nigeria is a rural development programme aimed at improving the living conditions of the rural poor and other vulnerable groups (women, children etc.). The programme is

funded by the Federal Government of Nigeria (FGN), state government and the International Fund for Agricultural Development (IFAD), the focus of the programme is on expanding economic opportunities by increasing productivity, enhancing value-added processing and increasing commercialization through private sector led to growth and development.

CBARDP is designed to improve the living conditions of the rural poor with emphasis on women and other vulnerable groups. The project goal is reduction of poverty through improving the living conditions of the rural poor by empowering and supporting them to effectively manage their own development activities. The project's objective is to contribute to the country's food security efforts, increase access to rural infrastructure facilities in the project areas using a participatory, community-based, demand-driven approach. The project's components include capacity building, production development, community development and management and coordination (Project Implementing Unit, 2013). The participating states are: Adamawa, Bauchi, Gombe, Kwara and Kaduna state (PIU, 2013). The participating states are: Adamawa, Bauchi, Gombe, Kwara and Kaduna state (PIU, 2013).

1.2 Statement of the Problem

The concern over increasing socio-economic predicament of the rural poor in Nigeria and the need for empowering its citizens has led to the conceptualization of various targeted poverty alleviation programmes (Babatude, 2006). The ADF-CBARDP has the long-held belief by development experts that the problem of Nigerian agriculture is low technical efficiency. In view of this, the ADF-CBARDP set out to address this by making technologies available to farmers in a section of Nigeria where such technical

capacity was considered low. The programme also assumed that once technologies are adopted and agricultural inputs are provided, crop production would increase and farmers would become food secured, rural income would rise, drift from rural to urban areas would reduce, wage-earning activities would increase, there would be improvement in infrastructural facilities, capacity building would be enhanced and rural livelihood would improve (PIUs, 2013). Consequently, the following project activities have been implemented: tractor hiring service, credit scheme, subsidized input supply, feeder road construction, provision of recreational facilities, extension services, provision of improved crop varieties such as maize, sorghum, cowpea, millet and groundnut and other institutional support services (PIUs, 2013). It is however, interesting to note that these intentions pose some key challenges to farmers' attitude and participation. Farmers' participation is considered necessary to get community support for agricultural development projects (Cole, 2007).

This study aimed at determining the factors that influence farmers' attitude and participation in the CBARDP. Cohen (1996) noted that obstacles to community participation are identified in the attitudes and practices of the personnel of development agencies, field staff and in the community itself. Farmers' participation in CBARDP has received the criticism that the programme was not benefiting the farmers (Ucha and Chimobi, 2010); that farmers were simply left out of the programme conception, planning and design stages; Most agricultural projects fail because when projects are designed, farmers or local ethics, culture and socio-economic characteristics are not considered which lead to outside agents not being able to develop and recommend appropriate technologies that are compatible with the target group, Igbal (2007). The use of top-down approach is one of the major factors causing failure of agricultural

projects and that approach builds on farmers experience instead of promoting empowerment and building farmers capabilities. Constraints to farmers' participation, according to Hedayat and Ma'rof (2009), are related to lack of appropriate institutional framework for farmers' participation coupled with the highly advanced and inappropriate technology involved. It is against this background that this study was conceived and designed to provide answers to the following research questions;

- i. What are the socio-economic characteristics of participating farmers in CBARDP in the study area?
- ii. What is the attitude of farmers towards the CBARD Programme?
- iii. What are the levels of farmers' participation in CBARD Programme?
- iv. What are the factors influencing farmers' attitude and participation in CBARDP?
- v. What are the effects of farmers' participation on income and yield of the farmers?
- vi. What are the constraints to farmers' participation in CBARDP?

1.3 Objectives of the Study

The broad objective was to determine factors influencing farmers' attitude and participation in the Community-Based Agricultural and Rural Development Programme (CBARDP) in selected areas of Kaduna state. The specific objectives were to:

- i. identify the socio-economic characteristics of the participating farmers in the study area;
- ii. assess the attitude of participating farmers towards the Community-Based Agricultural and Rural Development Programme (CBARDP);

- iii. determine the level of farmers' participation in the Community-Based Agricultural and Rural Development Programme (CBARDP);
- iv. determine factors influencing farmers' attitude and participation in Community-Based Agricultural and Rural Development Programme (CBARDP).
- v. determine the effect of participation in CBARDP on farmers' yield and income;
- vi. identify the constraints hindering farmers' participation in the programme.

1.4 Justification of the Study

The on-going IFAD/CBARDP in Nigeria that commenced in 2003 is a partnership programme that sought the participation of beneficiaries in the development process in order to empower them thereby reducing the rate of poverty. The factors that influence the attitude and participation of farmers that participate in CBARDP, is expected to sensitize extension workers on factors to address while carrying out programmes. This may make the programme readily acceptable to the farmers through their participation and also enable them achieve their objectives as well. This study was anticipated to give highlights of success and constraints of the programme and suggest options for its improvement. Also, the outcome was expected to be a guide to organizations, policy makers and donor agents who are interested in supporting farmers and their enterprises. Finally, the study would be of assistance to researchers interested in conducting further studies in community-based development programmes.

1.5 Hypotheses of the Study

- i. Farmers' socioeconomic characteristics have no significant influence on the attitude of the farmers towards CBARDP.
- ii. Farmers' socioeconomic characteristics have no significant influence on their participation in CBARDP.
- iii. Farmers' participation in CBARDP have no significant effect on yield of crops and income of the farmers.

CHAPTER TWO

LITERATURE REVIEW

2.1 People's Attitude and Change

Attitude is made of the beliefs that a person accumulates over his lifetime. Some beliefs are formed from direct experience and others are inferred or self-generated. However, only a few of these beliefs actually works and they are said to be the immediate determinants of a person's attitude (Ajzen and Fishbein, 1980). An attitude, then, is a person's salient belief about whether the outcome of his actions will be positive or negative. It has also been defined as the more or less permanent feelings, thoughts and predisposition a person has about certain aspects of his environment (Van den Ban and Hawkins, 1996). Attitude is thus, an evaluative disposition towards some object which has consequences for how a person will act vis- a- vis the attitude object. However, while attitudes are logical and hypothetical constructs (they are inferred and not objectively observable), they are manifested in conscious experience, verbal reports, gross behaviour and physiological symptoms. The quality of one's attitude is therefore judged from the observable, evaluative responses he tends to make.

There are two methods of attitude change: 'one-sided versus two-sided presentation'. A one-sided presentation is more effective if the audience agrees or has little knowledge about the subject. A two-sided presentation is more effective if the audience already has a view and you are to change it, because if they know the facts and you omit them, they will discount your argument (Hallorah, 1967). When faced with opposition about an attitude, one will consider the argument and rethink current beliefs, or will resist the argument and develop a stronger connection with his current beliefs.

2.2 Formation and Change of Attitude

People are always adopting, modifying, and relinquishing their attitudes to fit their ever changing needs and interest. The acceptance of a new attitude depends on who is presenting the knowledge, how it is presented, how the person is perceived, the credibility of the communicator, and the condition by which the knowledge was received (Hallorah, 1967). There are three types of attitude change, namely, cognitive change (which has to do with perceiving, knowing and believing from others like media), affective change (experience) and behavioral change (force) (Traindis, 1971). A number of sources including other people, family, media, the church, or the object itself can change attitude.

McGuire (1968) developed steps to changing an attitude. The steps are ‘attention’, ‘comprehension’, ‘yielding’, ‘retention’, and ‘actions’. Furthermore, in analyzing the attitude-change process, we must consider who says what, how, to whom, and with what effect (Traindis, 1971). We are more likely to accept information if we feel the communicator has no intentions to change our attitude or opinions (Hallorah, 1967). Attitude change also has to do with other personality characteristics such as susceptibility to persuasion, intelligence, and readiness to accept change. The problem of attitude change is the problem of the degree of discrepancy between one’s own position and the position advocated in a message; and the felt necessity of coping with that discrepancy.

2.3 Overview of Community Agriculture and Rural Development Programmes in Nigeria

Agriculture is an important component of most rural economies especially in the developing countries. Therefore, any successful rural development strategy will contain

an agricultural development component; but they are not the same thing. While agricultural development aims at improving the welfare of populations through sustained improvements in the productivity of the agricultural sector, rural development aims at the improvement of welfare of rural populations through the sustained growth of the rural economy, which includes agriculture, but may not be its only component and not necessarily the most dynamic (Anríquez and Stamoulis, 2007).

Agriculture in Nigeria is the most important sector of the economy from the standpoint of rural employment, sufficiency in food and fibre, and export earnings prior to the discovery of oil. This assertion is based on the fact that as at independence in 1960, little was known of petroleum as a source of revenue for the Nigerian economy. There was sustained emphasis on agriculture to the extent that Nigeria was a major exporter of such agricultural products as palm produce, cocoa, groundnut, cotton and rubber. In addition to these cash crops, the national agricultural system was able to produce enough of food crops like yam, cassava, maize, millet, sorghum and soya beans to the extent that there was almost no need for food importation. Hitherto, agriculture accounted for over 60% of the Nation's Gross Domestic Product (GDP). However, with the advent of petroleum in the early 1970s, petroleum became the country's major foreign exchange earner and agriculture became grossly neglected (Oni, 2008a).

The Federal Government of Nigeria has come up with diverse agricultural programmes in order to restore the relevance of agriculture in the country. Some of such programmes are The National Fadama Development Project, Directorate of Food Roads and Rural Infrastructure (DFFRI), Community Based Agriculture and Rural Development Programme (CBARDP). In Nigeria, the term 'Fadama' is a Hausa name for irrigable

land usually low-lying plains underlined by shallow aquifers found along major river systems, Kudi *et al.* (2008). He added that Fadama farming therefore, implies cultivation or growing of crop under irrigation or in dry season because flood plains are inaccessible during the normal season. In addition to providing a source of water for livestock during dry season, Fadama also support large and diverse resident or transient wild-life including herbivores, carnivores and migratory birds NAFDO (2007). According to Ike (2012), Fadama is a tripartite funded intervention by World bank in 1996, the Federal Government of Nigeria and participating state with objectives targeted towards poverty reduction and thus designed to improve the capacities of beneficiary group. The potential of Fadama farming according to Omonona (2009) has been widely documented in Ondo state as the potential of increasing food production in Nigeria.

2.4 The Concept of Participation

There are different types of participation in practice. The types and levels of peoples' participation in development depend on the objectives of a programme. Based on a study of both successful and unsuccessful development projects, Pretty (1995) presented participation in form of a continuum depicting eight types from the highest to the lowest. The lower levels in the continuum represented by manipulative participation, passive participation, participation by consultation, participation by material incentives and functional participation are characteristically described as a means of achieving some predetermined objectives due to non-involvement of beneficiaries in all the development phases. This form of participation is seen as static, passive and absolutely controllable (Hedayat and Ma'rof, 2009).

Participation in this sense is essentially perceived as a means of achieving some predetermined goals by using social and economic resources of the community for the attainment of specific and overall improvements of the community on one hand, and on the other, to achieve effective, efficient and cheap development programme. Moreover, it has been observed that when participation is considered as a means, it does not lead to alteration of existing power structure within community, the existing top-down power structure prevails (Parfitt, 2004).

The higher levels of Pretty's participation continuum are depicted by interactive participation and self-mobilization. Here, rather than seeing participation as a means, participation appears as an end where beneficiaries take control over local decisions and determine how available resources are used, so they have a stake in maintaining structures or practices. At this level, participation is seen as a process in which beneficiaries are directly involved in shaping, deciding and taking part in the development process from the bottom-up perspective (Ansarulkhadi, 1996). The goals of development here is considered less important, emphasis is placed on building the confidence and competence of people to fully partake in their own development initiatives without recourse to seeking assistance from outside the community.

2.5 Extent of Participation in Poverty Eradication Programmes in Nigeria

Nkom (2005) reported a low level of people's participation in poverty eradication programmes in Nigeria. He attributed this to non-involvement of the beneficiaries in programmes planning and implementation. Joseph (2005), in a similar study, found that some of the participants were not actively involved in all the activities of the programmes studied, instead they were passive and patiently waiting to take whatever

gets down to them from the policy makers and implementers of the programmes. He also blamed this situation on non-involvement of the rural poor to whom the programme was meant in the planning and implementation process. However Fidelis (2001) has reported contrasting findings. In his study, he reported a high level of people's participation in poverty eradication programmes and other related programmes. Wallace (1980) in her study noted a non-participation rate of about 40% during the 1976/77 dry season farming as many farmers could not afford the increasing cost of inputs thereby giving out their land to other farmers.

2.6 Factors Influencing Participation in Development Programmes

As participation continues to remain a context-specific concept, so also the factors that motivate beneficiaries' participation varied from individuals, contexts and programmes. The motivation to participate by and large depends on individual conceptions. Although, the reasons for beneficiaries' participation in development programmes have not been consistent because the participatory literature is often vague as to what generally motivate people to participate (Clever, 1999), empirical evidences abound. For instance, whereas, Friedman (1992) places emphasis on economic rationality as the most influential factor motivating beneficiaries' participation, Clever (1999) on the other hand, suggested the consideration of social factors. The social factors, according to him, are the intangible benefits such as the need for self-respect and recognition. Similarly, in a study of stakeholders' participation in rural development projects in Northern Ghana, Boakye-Agyei (2009) found that one of the most important factors motivating people to participate is the desire to get tangible material benefits. Hildyard *et al.* (2001) maintains that if stakeholders involved in development processes are really concerned with the issue of sustainability and poverty reduction, it is imperative to prioritize the development of the oppressed and marginalized groups. This involves a

Careful examination of their training needs and internal hierarchies, which are crucial for respect of other peoples' opinions. Freire (1972) observed that if authoritarianism and rigid conditions dominate development programmes, exclusionism ultimately sets in – a situation in which participation of the targeted groups cannot be achieved. Furthermore, in a study on peoples' participation in Mongolia, Berends (2009) found that the publicity given to the programme and the cordial relationship that existed between beneficiaries and programme officials have motivated beneficiaries participation.

2.7 Community-Based Agriculture and Rural Development Programme (CBARDP)

Community-Based Agriculture and Rural Development Programme (CBARDP) is an integrated agriculture and rural development programme aimed at improvement of livelihoods and living conditions of the rural poor and other vulnerable groups. The CBARDP Loan agreement between IFAD and Federal Government of Nigeria became effective on January 31st, 2003 with the completion date of March, 2010 (IFAD, 2001).

The programme consists of two components:

- i) Awareness and capacity building at community, Local government, State and Federal levels; and
- ii) Community development fund, to finance support services as well as infrastructures at the community level.

The Programme Loan Agreement (PLA) stipulated that Mid-Term Review (MTR) of the programme would be conducted not later than the third programme year. The

purpose of the MTR is to establish the achievement of programme objectives, ascertain that all design assumptions are still working, identify constraints and recommend any re-orientation that may be required to alleviate the constraints and improve effectiveness. The programme ensures community participation in the design and implementation of the project activities and sustainability, by providing the institutional support that will enable service providers to participate effectively, and be more responsive to the desires of the Rural Village Areas (RVAs) using 'Community-Driven Development' (CDD) approach, which was seen as the most efficient and effective approach to poverty alleviation in Nigeria and subsequently, in the implementation of CBARDP (PCU, 2006).

2.8 Perspective on Rural Infrastructure Strategy for Socio-Economic Development

Rural infrastructure strategy for socio-economic development could be seen as a subject of the overall economic development strategy of developing countries. In essence, the rural infrastructure strategy is not an alternative to other poverty alleviation strategies for economic development, but an extension and natural revolution. The general notion underlying the rural infrastructure strategy is that; it is difficult for the rural sector to contribute significantly to the economic progress in the absence of basic facilities that also enhance their living standards. In the same manner, Ekong (2003) views infrastructure as those underlying basic physical, social and institutional terms of capital which enhance rural dwellers' production, distribution and consumption activities and ultimately the quality of their life. Often these include structures which cannot be privately provided and therefore require large capital outlay on the part of government.

2.9 Perspectives on Rural Development

In an attempt to review literature on the concept of “rural development” effort is being made to look at development as a concept. It can be safely argued that, development as a concept is a multi-dimensional or many-sided process. To some, it is merely quantitative change; meaning economic growth, while others see it as qualitative change, which means improvement in terms of living standard of people. In addition to improvement of income, this involves radical change in institution, social and administrative structures as well as people. “Rural development” as the central point of discussion according to Williams (1982) is seen as a programme of change aimed at the elimination of poverty among rural dwellers and the ultimate enhancement of their quality of life and general well-being.

2.10 Theoretical Framework

The theoretical framework employed in this study was the theory of social change.

2.10.1 The theory of social change

Social change is an ever-present phenomenon in any society. Ekong (2003) described social change specifically as the process by which alterations occur in the structure and function of a social system. Thus, where-as a social system is a viable interactive human group, social change pervades all aspects of social life and may manifest as economic, political, technological, culture and behaviour changes (Ekong, 2003). The process of change involves interaction and so individuals must be understood in terms of the group in which they belong or participate.

Social change which could be planned entails the direct human intervention in reforming and directing change towards some defined goals while unplanned change is

that which occurs suddenly usually through the act of nature without affording man the chance to plan before it happens. Thus, for this study, the social change theory has helped to analyze the changes in yield, income and livelihoods of farmers in the study area.

2.11 Conceptual Model

The conceptual model consist of concepts that are placed within a logical and sequential design and represents a less formal structure. Ekong (2003) views a conceptual model as a broad system of explanation which is founded not so much on prior research findings but largely on untested and unproved assumptions about social realities. Furthermore,

The model for this study shows the presumed factors that influence farmers' attitude and participation in the Community-Based Agricultural and Rural Development Programme. The envisaged outcome therefore, is the relationship that exists between the independent variables and the dependent variables; which finally, will lead to the situations envisaged after the termination of the programme in terms of yield and income of the farmers. The variables are presented in Figure 2.1

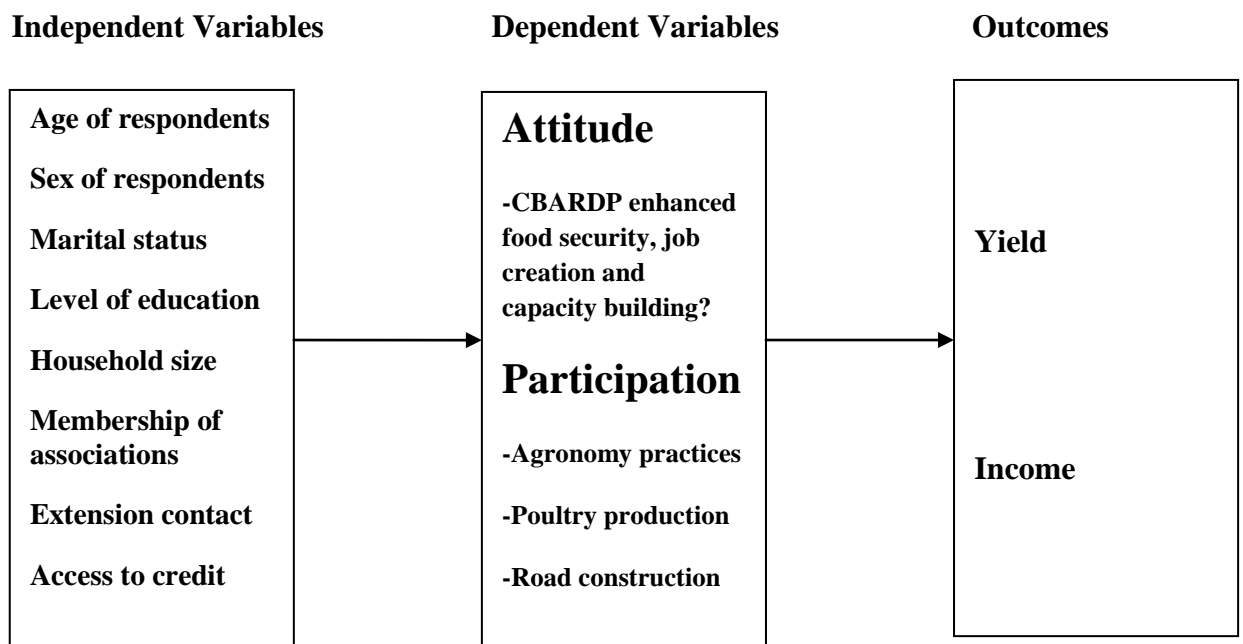


Figure 2.1: A model of factors influencing farmers' attitudes and participation in Community-Based Agriculture and Rural Development Programme (CBARDP).

CHAPTER THREE

METHODOLOGY

3.1 The Study Area

The study area is Kaduna State. The state lies in the north-western part of Nigeria. It lies between latitudes 9^o and 12^oN of the equator and longitudes 6^o and 9^oE of the Prime Meridian. Kaduna State shares boundaries with Katsina and Kano States to the north, Plateau to the north-east, Nasarawa and Abuja to the south and Niger and Zamfara State to the west (Kaduna State Government, 2012). The State occupies an area of approximately 68,000 square kilometers or 7% of Nigeria's land mass. The state has 23 Local Government Areas (NPC, 2006). The mean annual rainfall shows a marked decrease from South to North (1,524mm to 635mm). Two distinct seasons (rainy and dry) are experienced in the State. The duration of dry season is 5-7 months which normally starts from October; the State is agrarian and well suited for the production of arable crops such as maize, yam, millet, and sorghum because of favourable climatic conditions. Livestock production is also practiced in the State. Rearing of goats, sheep, cattle and different classes of poultry as well as marketing of their products is practiced in the state and a large variety of non-agricultural occupations also exist. The total population of the State is 6.11 million (NPC, 2006). Based on annual population growth rate of 3.2%, the projected population of the state was about 7.33 million people in 2014 (NPC, 2006). Within the State there are a number of establishments ranging from companies, research institutes, higher institutions and colleges.

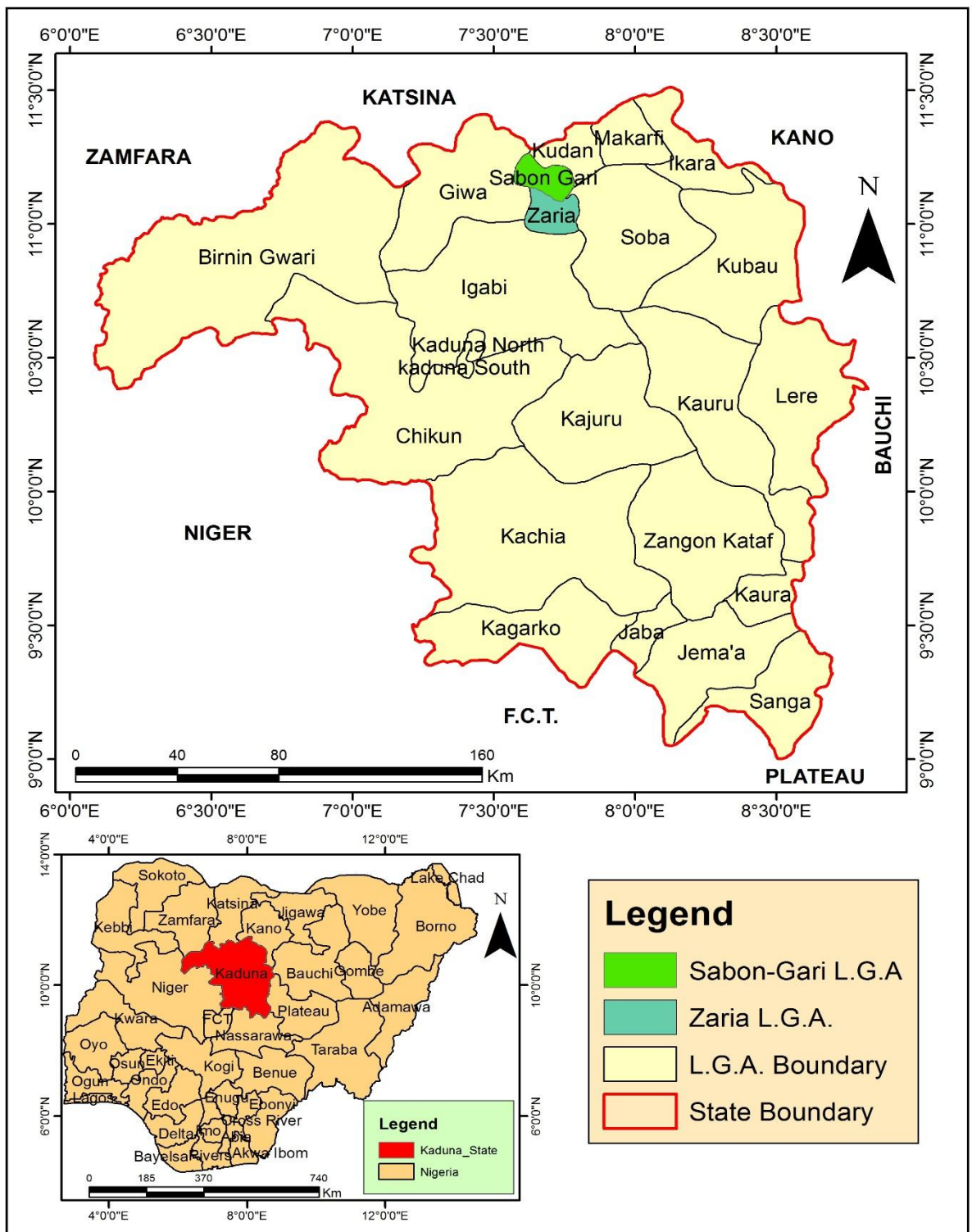


Figure 3.1: Map of Kaduna State showing the study areas

3.2 Sampling Procedure and Sample Size

A multi-stage sampling technique was used for this study. In the first stage, two Local Government Areas (LGAs) in Kaduna state were purposively selected because they have the highest number of participating farmers out of the participating LGAs. The selected Local Government Areas are Zaria and Sabon Gari. In the second stage, three villages were randomly selected from each of the selected LGAs through the lottery method. The villages selected from Sabon Gari LGA are Bomo, Basawa and Muchia while that of Zaria LGA are Kugu Dutsen Abba, Wuciciri Abba and Kofar Galadima. Finally, 15% of the participating farmers whose list was obtained from the CBARDP were randomly selected. Thus, a total of 189 respondents was used for the study (Table 3.1).

Table 3.1: Distribution of respondents in the study areas

Local Government Areas (LGAs)	Villages	Population of the participating farmers	Number of Farmers selected (15%)
Zaria	Kugu Dutsen Abba	242	36
	Wuciciri Abba	106	16
	Kofar Galadima	172	26
Sabon Gari	Basawa	256	38
	Bomo	221	34
	Muchia	261	39
Total		1258	189

3.3 Data Collection

Primary data was used for this study. The main instrument for primary data collection was a structured questionnaire that was administered to the respondents. Information collected was on respondents' socio-economic characteristics such as age, marital status, educational status, household size, sex, access to credit, extension contact, and years of membership of association.

3.4 Analytical Techniques

The following analytical tools were employed for the study: descriptive statistics, multiple regression analysis and paired t- test statistics.

3.4.1 Descriptive Statistics

This comprised measure of central tendencies (percentages, mean, and frequency distribution) was used to identify the socio-economic characteristics of the farmers (Objective i), assess the attitude of the farmers (objective ii), determine the level of farmers' participation in CBARDP (objective iii) and identify the constraints faced by the farmers (objective vi).

3.4.2 Multiple regression analysis

This was used to achieve objective iv of the study, which is the determination of factors influencing farmers' attitude and participation in CBARDP.

The model is specified in the form below;

$$y_1 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 \dots + b_8x_8 + \varepsilon$$

$$y_2 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 \dots + b_8x_8 + \varepsilon$$

y_1	=	Attitude towards CBARD Programme
y_2	=	Participation towards CBARD Programme
X_1	=	Age (years)
X_2	=	Sex of respondents
X_3	=	Marital Status
X_4	=	Educational Status (years)
X_5	=	Household size (number of people)
X_6	=	Membership of associations (Years)
X_7	=	Extension contact (number)
X_8	=	Access to Credit (Actual amount)
b_0	=	Constant term
$b_1 - b_8$	=	Regression coefficients
e	=	Error term

3.4.3 Paired t-test Statistics

This was used to determine the effect of farmers' attitude and participation in CBARDP on farmers' yield and income (objective v). The significant effect was tested at 5 percent level of probability.

3.5 Definition and Measurement of Variables

3.5.1 Measurement of independent variables

Eight explanatory variables which were measured as continuous and discrete variables were used as determinants of farmers' attitude and participation in Community-Based Agriculture and Rural Development Programme in selected areas of Kaduna State.

These variables include: age, marital status, educational status, household size, sex, access to credit, extension contact and membership of association.

- (i) **Age (X_1):** This refers to the number of years of an individual attained from birth. It is a continuous variable and was measured in years. Age of the farmers is expected to have either positive or negative influence on the attitude and participation of farmers in CBARDP.
- (ii) **Sex of respondents(X_2):** This is the biological characteristics used in categorising an individual as either a male or a female. It was recorded as dummy variable; male=1, female=0. Farmers are expected to have positive attitude and participate more if more of the men are involved.
- (iii) **Marital Status (X_3):** This refers to the state of being either married or unmarried. It was measured as a dummy variable where married=1, unmarried=0. Farmers are expected to have positive attitude and participate more if majority are married.
- (iv) **Educational status (X_4):**This refers to the acquisition of knowledge through formal schooling. This was measured by the number of years spent in school. It is expected to have positive influence on attitude and participation of farmers in CBARDP.
- (v) **Household Size (X_5):**This refers to the number of individuals in the household which includes husband(s), wives, children and dependents who

reside within the same family, Farmers are expected to have positive attitude and participate more if the household size is large.

- (vi) **Membership of Association (X₆):** This variable was used to characterize farmers based on involvement in production and/or marketing organizations at the time of data collection. It was measured in years. Farmers are expected to have positive attitude and participate more if they spend more years in cooperative societies.
- (vii) **Extension contact(X₇):** This refers to the access to government extension services by the respondents. It was measured as number of extension contacts with extension agents per year. Farmers are expected to have positive attitude and participate more if they have more extension contacts.
- (viii) **Access to credit(X₈):** This refers to the number of farmers who received credit from both formal and informal sources during the programme. It was measured as a dummy variable where Yes=1, No=2. Farmers are expected to have positive attitude and participate more if they have access to credit.

3.5.2 Measurement of Dependent Variables

Attitude(Y₁): This refers to feelings, thoughts and predisposition the farmers have about CBARDP. In this study, the respondents were made to respond to the statement on a five-point Likert scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), Strongly Disagree (SD). Scores of 5, 4,3,2,1 were assigned to the corresponding responses for positive statements and the scores reversed for the negative

statements. This scale was used to measure the attitude of the participants towards CBARDP.

Participation (Y₂): This is the explanatory variable (dependent variable). It measures the degree of participation in the Community-Based Agriculture and Rural Development Programme. It is the extent to which the participants were involved in the activities that were carried out in the programme. Participation was measured by the number of activities which participants were involved in, which were then distributed on a three-point Likert scale of high, moderate and low levels of participation. Farmers who participated in 5-6 activities were rated as high participants, 3-4 activities as moderate participants and 1-2 activities as low participants. The activities carried out during the programme were agronomy practices, bull rearing, sheep and goat crossbreeding, poultry production, road and borehole construction and women support trainings (sewing, grinding and economical cooking wood)

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter deals with the presentation and discussion of the results of the study. It focuses on the findings associated with the objectives of the study. The first objective of the study was to describe the socio-economic characteristics of farmers participating in Community Based Agricultural and Rural Development Programme (CBARDP) in the study area.

4.1 Socio-economic Characteristics of Farmers Participating in CBARDP

4.1.1 Sex of respondents

Table 4.1 shows that 93.7% of the respondents were male while 6.3% were female. This indicates that majority of the farmers participating in CBARDP were male. The low participation of women in CBARDP could be attributed to land ownership which is traditionally not in favour of women. This result was similar to the findings of Othman (2006) in his study in Kano State, Nigeria on the impact of community-based organizations on rural development. He reported that 92% of the participants were male. Oluwatayo (2008) opined that men are mostly engaged in livelihood activities. Yahaya (2007) observed that it is generally believed that men are often more energetic and could readily avail themselves for energy demanding tasks such as farming activities.

Conversely, women are limited in farm production process as a result of traditional gender-based subordination and the disparity between them and men in the size of landholdings and other agricultural resources. Also, low participation among women could be due to the fact that they engage in other livelihood activities such as petty trading in addition to other social responsibilities

Table 4.1: Sex of the respondents

Sex	Frequency	Percentage
Female	12	6.3
Male	177	93.7
Total	189	100

4.1.2 Age of respondents

As shown in Table 4.2, about 16 % of the respondents were within the age of 21-30 years, those that were 31-40 years old constitute 29.6 % and 41-50 years old constituted 33.9%. Only 5.3% were more than 60 years. The mean age was 43 years with a minimum age of 26 years and maximum age of 68 years. These results indicate that farmers participating in CBARDP are mostly young and within the agricultural productive age range of 30-55 years reported by the Food and Agricultural Organization (FAO, 1992). The result indicates that, the relatively younger farmers were found to be more participating in CBARDP activities than the older respondents. This agrees with the assertion that young people tend to withstand stress, put more time in various agricultural operations and participate in programmes which can result to increased outputs (Adeola, 2010). Young people are dynamic and willing to take risk connected

with adoption of new agricultural technology which may explain the higher propensity for participation in developmental projects such as CBARDP. Ekong (2000) has reported that most of the respondents involved in active farming activities were below 50 years. Adamu et al. (2013) noted that young farmers are capable of managing risks associated with new ideas or practices than older people who are less active. Ekwenta (2004) asserted that young farmers are more enthusiastic and more inclined to adopting innovation than elderly farmers. He stressed that elderly people are reluctant in adopting new practices for the fear of their security or prestige.

Table 4.2: Age of the respondents

Age (Years)	Frequency	Percentage
21-30	31	16.4
31-40	56	29.6
41-50	64	33.9
51-60	28	14.8
61-70	10	5.3
Total	189	100
Min	26	
Max	68	
Mean	43	
St. Dev	10.59	

4.1.3 Marital Status

The result in Table 4.3 shows that 86.2% of the respondents were married while 13.8% were single. This agreed with Sabo (2005) who found that majority of the participants and the non-participants were married. Marital status may influence the size of households and married farmers may have larger household sizes which may encourage them to participate in agricultural projects in order to raise their income and level of living. The significance of marital status to agricultural production and livelihood activities can be explained in terms of the supply of agricultural family labour. It is expected that family labour would be more available where the household heads are married (Amaza *et al.*, 2009).

Table 4.3: Marital status of the respondents

Marital status	Frequency	Percentage
Married	163	86.2
Single	26	13.8
Total	189	100

4.1.4 Educational Status

The results in Table 4.4 revealed that about half (50.3%) of the participating farmers did not have formal education. The result also indicates that less than half had one form of education or the other. Respondents that had primary and secondary education were 25.9% and 15.3% respectively. The level of educational attainment of respondents is very important because it could lead to awareness of the possible advantages of modern

farming techniques. Similarly, Ojuekaiye (2001) posited that education is an important socio-economic factor that influences farmers' decision because of its influence on farmers' awareness, perception, reception and adoption of innovations that affect farm production. Education is also a dynamic instrument for enhancing women's participation in agricultural production (Ekong, 2003). There is a positive correlation between level of education and efficiency, effectiveness and ability to think about a problem and managerial capacity (Awoyemi, 2000). Farmers' level of education is expected to influence farmers' adoption of agricultural innovations and decision on various aspects of farming. Thus, the literacy level of farmers affects the degree of acceptance and subsequent adoption of improved farming technologies. Similarly, exposure to education increases farmers' ability to obtain, process and use information relevant to adoption of technologies. This indicates that improvement in the educational levels of farmers may raise their level of participation.

Table 4.4: Educational level of the respondents

Level of Education	Frequency	Percentage
No formal education	95	50.3
Primary education	49	25.9
Secondary education	29	15.3
Tertiary education	16	8.5
Total	189	100

4.1.5 Household size

Findings presented in Table 4.5 showed that majority (54%) of the respondents had household sizes that ranged between 1-5 persons while 37.6% had between 6-10 persons. The average household size was 6 persons with a minimum size of 1 person and a maximum of 19 persons. This indicates that the households of the participating farmers were fairly large. The average household obtained in this study was however, lower than the African average household of 9 person reported by Nweke (1989). The size and composition of the household is an important variable in agricultural production because it suggests the level of available labour force or pressure on land. Household size influences the availability of family labour for agricultural operations, since the main source of labour for a typical traditional farmer is his immediate dependents. It is therefore expected that, household size would influence the participation of farmers in agricultural programme, especially where joint labour is needed (Adamu *et al.*, 2013). However, Ahmed (2011) argued that large household size is associated with increased household consumption expenditure which reduces the money that could be used for production purposes.

Table 4.5: Household size of the respondents

House hold size	Frequency	Percentage
1-5	102	54.0
6-10	71	37.6
11-15	14	7.4
16-20	2	1.1
Total	189	100

Min	1
Max	19
Mean	1
St. Dev	3.71

4.1.6 Farm size

The results in Table 4.6 revealed that 80.4% of the respondents cultivated farm size of between 1-2 hectares while 16.9% cultivate between 3-4hectares. Only 2.65%cultivate more than 4 hectares. The average farm land cultivated by the farmers was 1.83 hectareswith a minimum of 1 hectare and maximum of 6 hectares. According to Ojuekaiye’s (2001), classification of farm size of 0.1 - 5.9 hectares as small farms, the results indicate that the participants were mainly small-scale farmers. Farm size is an indicator of the level or scale of production of an individual farmer. Under subsistence agriculture, farm size is expected to play a significant role in food availability because size of the land under cultivation will determine the quantity of food production. The farm size of the respondents is consistent with Ekong (2003) who reported that most Nigerian farms are small-sized family farms in which family members contribute the required labour.

Table 4.6: Farm size of the respondents

Farm size (hectares)	Frequency	Percentage
1-2	152	80.4

3-4	32	16.93
5-6	5	2.65
Total	189	100
Min	1	
Max	6	
Mean	1.83	
St. Dev	0.74	

4.1.7 Mode of land acquisition

Findings of this study revealed that the participating farmers had acquired land through different means. It was revealed from Table 4.7 that the major mode of land acquisition among the farmers was inheritance (62.4%). However, 22.2% of the farmers had acquired their land through purchase. Land acquisition through inheritance could place prospective land users at a disadvantage because sometimes the land owners would neither use nor release their land to farmers who may want to use it.

Table 4.7: Mode of land acquisition

Mode of land acquisition	Frequency	Percentage
Inheritance	118	62.4

Purchase	42	22.2
Gift	18	9.5
Rent	11	5.8
Total	189	100

4.1.8 Cooperative Membership

The results in Table 4.8 revealed that 94.2% of the respondents belong to cooperative associations, while only 5.8% did not. This indicates that most of the participants of CBARDP were members of cooperative societies and this development may be due to their awareness of the benefits of cooperative societies. The farmers had an average cooperative membership experience of 2 years with a minimum of 1 year and maximum of 6 years. The years of membership therefore ranged between 1-6 years. About 47% of the farmers had 1-3 years of membership while 41.8% had between 3-4 years. The implication of membership of association is that the CBARDP participants were properly organized for easy access to agricultural information and credit facilities. Membership of cooperatives societies has propensity to provision of credit facilities. People come together to pool their resources so as to meet individual needs that could not be resolved by individual limited financial capacity. Ekong (2003) and Ajayi (2002) stated that participants in cooperative societies have some advantages, that include micro-credit, input subsidy and avenue for cross breeding of ideas and information.

Table 4.8: Cooperative membership

Member of association	Frequency	Percentage
No	11	5.8
Yes	178	94.2
Total	189	100

4.1.9 Extension contact

Results presented in Table 4.9 revealed that 66.7% of the respondents had between 4-6 contacts with extension agents while 32.25% had between 1-3 contacts in a year. The average number of contacts the farmers had with the agents during the growing season was 4 with a minimum of 1 contact and maximum of 6 contacts. The finding is in line with that of Ezedinma (1989) who found that 61% of his farmers had between 4-6 contacts with extension agents in a growing season. The importance of extension contact is that frequent contacts between farmers and extension agents create more awareness and reduces difficulty in the adoption process. Contact with extension can lead to improvement in food production as a result of increased access to information on improved agricultural technologies which would enhance greater productivity. Similarly, Chery *et al.* (2000) found that the adoption of new technologies is often influenced by the frequency of farmers' contact with extension agents. The relationship between the agricultural extension agent and the farmer could be an important determinant in the adoption and sustenance of improved farm practices such as recommended rice production practices. According to Atala (1988), the major factors limiting the use of recommended farm practices were inadequate extension contact,

inadequacy of input supply and lack of credit. This indicates that adequate extension contact would enhance farmers' interest and the use of recommended farm practices.

Table 4.9: Distribution of respondents based on extension contact

Contact with extension agent	Frequency	Percentage
Yes	186	100
Total	186	100
No of visits		
1-3	60	32.25
4-6	126	67.74
Total	186	100
Min	1	
Max	6	
Mean	4	

4.1.10 Access to credit

Results presented on Table 4.10 shows that 55.6% of the respondents had access to credit and 44.4% of them did not have access to credit. This implies that majority of the farmers who participated in Community-Based Agriculture and Rural Development Programme had access to credit. This may be because majority of the farmers are members of associations which makes availing of credit convenient since the farmers

can easily be reached. Ugbajah and Orji, (2006) stated that credit enables producers to procure inputs, hire labour and equipment.

Table 4.10: Access to Credit

Access to credit	Frequency	Percentage
Access	105	55.6
No access	84	44.4
Total	189	100

4.2 Farmers' Attitude towards Community-Based Agriculture and Rural Development Programme (CBARDP)

The second objective of the study was to examine the attitude of farmers towards CBARDP in the study area. It was revealed that farmers had different perceptions about CBARDP. Results in Table 4.11 indicate that 68.8% of farmers have agreed that CBARDP has enhanced food security in their area. None of the farmers has disagreed with this assertion that CBARDP has enhanced food security. This finding is contrary to that of Adekanye, Otitolaiye and Opaluwa (2009) who reported that extension programmes have often been ineffective in food and agriculture. The primary focus of subsistence agriculture is household food availability and accessibility. The primary aim of any agricultural development programme is to increase food production by increasing farmers' accessibility to productive resources and adoption of modern farming techniques. This shows that farmers' preference to participate in CBARDP was to achieve food security and food self-sufficiency. Food security is ensured by providing seeds, fertilizers and machinery to farmers.

The results in Table 4.11 revealed that CBARDP did not enhance farmers' accessibility to land. About 74% of the farmers disagreed with the statement that participation in CBARDP enhances accessibility to land. This could be attributed to the mode of land

acquisition in the area which is predominantly through inheritance. This result was in contrast with the findings of Kgosiemang and Oladele (2012) who reported that 74.4 percent of these respondents agreed that participation has enhanced participants' access to land. In their own case, majority of the respondents accessed land through the proactive Land Acquisition Strategy (PLAS) which ensures that potential farmers have access to leased state land to continue with their agricultural activities.

However, 77.8% of the respondents have strongly agreed that CBARDP has improved access to extension services and none of the respondents has disagreed with the statement that participation improves extension services among farmers in the study area. The participating farmers were benefiting from extension activities which enhanced their preference for participation in CBARDP.

As shown in Table 4.11, 74.6 percent have agreed with the statement that CBARDP has improved capacity building among its beneficiaries. The weighted score of 3.59 obtained in this finding indicates that farmers were in support that CBARDP contributes to empowerment and capacity building which increased their preference to participate in the programme. The results however, show that participation does not increase farmers' accessibility to market. This is because majority (67.7%) of the farmers have disagreed with the statement that CBARDP has improved farmers' access to markets. This findings show that CBARDP had increasing productivity of its target but with little or no efforts of linking farmers to available markets. Therefore, the problem of poor market and pricing of excess outputs produced by the farmers remains a challenge and limiting factor to large-scale production.

However, majority of the farmers (81%) agreed that CBARDP had improved investment in agriculture. Less than three percent of the farmers disagreed with the statement that participation in CBARDP increases investment in agriculture. The implication of this finding is that the presence of CBARDP in the area encourages farmers to put efforts and the also limited resources at their disposal into agricultural production. It was observed that majority of the farmers agreed that CBARDP has enhanced job creation. This indicates that employment could be generated through agricultural activities especially in the rural areas which can be used to combat rural-urban migration in search of means of living in the cities. It was further noted that majority of the respondents were undecided on the issue of whether implementation of CBARDP in the study area brings diversification of livelihood. The reason could be attributed to the fact that the projects sometimes focus attention on agricultural production as a means of improving rural livelihood since agriculture remains the major occupation of rural people. Based on the findings of this study, it was revealed that CBARDP was not highly bureaucratic. About 84 percent of the respondents agreed that CBARDP was not bureaucratic. This is not surprising because the project ensures community participation in the design and implementation of the project activities and sustainability. It does this by providing the institutional support that would enable service providers to participate effectively and be more responsive to the desires of the rural village areas (RVAs) using the Community-Driven Development (CDD) approach, which was seen as the most efficient and effective approach to poverty alleviation in Nigeria and subsequently in the implementation of CBARD Project (PCU, 2006).

It was revealed from the findings that the CBARDP had increased participant's outputs, living condition and annual income. More than three quarters of the respondents agreed with the statement that participation in CBARDP improves yield, living condition and annual income. The overall mean weighted score was 3.59, which implied that the farmers had positive attitude towards Community-Based Agricultural and Rural Development Programme. This result opposed to Amalu's (1998) assertion that farmers' attitude towards agricultural activities have not changed as much as desired; the consequence, according to Waldie (2001), is that in as much as farmers still continue to see agricultural projects as unfulfilling, they would seek whatever occupations seem good for them especially in other non-agricultural sectors in the cities.

Table 4.11: Distribution of the respondents based on their attitude towards CBARDP in the study area

Attitude	Percentage					Weighted Score
	SA	A	UD	D	SD	
CBARDP enhanced food security	19.6	68.8	11.6	Nil	Nil	4.08
CBARDP is not too bureaucratic	1.6	84.1	8.5	5.8	Nil	3.81
CBARDP enhanced access to land	3.2	10.6	6.9	74.1	5.3	2.32
CBARDP Improved access to extension services	77.8	11.1	5.8	Nil	5.3	4.56
CBARDP Improved Capacity building	6.9	74.6	12.2	1.1	5.3	3.76
CBARDP Improved access to market	7.4	8.5	4.8	11.6	67.7	1.76

CBARDP Improved investment in Agriculture	4.8	81.0	11.6	1.6	1.1	3.87
CBARDP Increased diversification of livelihood	13.2	18.5	67.7	0.5	Nil	3.44
CBARDP Enhanced job creation	6.3	83.6	8.5	Nil	6.3	3.95
CBARDP Increased annual income	6.3	85.7	1.1	6.9	Nil	3.92
CBARDP Increased crop yield	7.4	77.2	2.1	6.9	6.3	3.72
CBARDP Improved living condition	8.5	84.7	Nil	6.9	Nil	3.94
Overall Mean Weighted Score						3.59

4.3 Level of Farmers' participation in Community-Based Agriculture and Rural Development Programme (CBARDP)

Objective three of this study was to determine the level of farmers' participation in the Community-Based Agricultural and Rural Development Programme (CBARDP). It was observed that farmers became aware of CBARDP through extension agents. Majority (95.8%) of the respondents reported that their awareness was through extension agents. Only 2.1% were aware of CBARDP through the mass media. Awareness is very important because it is the first factor that could determine participation. The results presented in Table 4.12 revealed that the farmers had moderate participation in CBARDP. About 70 percent described their participation as moderate since they participated in only 3 to 4 activities of the programme. About 16% of the farmers had described their participation as low, having participated in 1 to 2 activities of the programme. This result indicates that majority of the farmers were more interested in

eliminating hunger and poverty since the overall goal of CBARDP is to reduce food insecurity and poverty through improvement of the living condition of the rural poor. The finding also implied that most farmers were aware of the benefits that they can get by participating in agricultural projects such as capacity building, exposure to new techniques and empowerment which may help them increase their production and eliminates hunger and poverty.

Table 4.12: Respondents source of awareness of CBARDP and Participation in CBARDP

Source of awareness*	Frequency	Percentage
Extension Agents	181	95.8
Friends and Relations	19	10.1
Mass media	4	2.1
Level of participation		
Low (1-2 activities)	31	16.40
Moderate (3-4 activities)	132	69.84
High (5-6 activities)	26	13.76
Total	189	100.00

*Multiple responses were allowed

4.4 Factors Influencing Farmers' Attitude and Participation in CBARDP

The fourth objective was to determine socio-economic factors influencing the attitude and participation of farmers in CBARDP in the study area. Multiple regression analysis was used to achieve this objective. Based on the values of the standard error estimates, the number of significant variables and conformity of the sign of the coefficient of independent variables, the result of the linear model was chosen and used for discussion. Results of the regression analysis were used to test the hypotheses of the study and the results are presented and discussed below.

Hypothesis 1:

It was hypothesized that socio-economic factors had no significant influence on the attitude of the farmers towards CBARDP. The socio-economic factors considered in this section were age, sex of respondents, marital status, education, household size, membership of associations, extension contact and access to credit. As shown in Table 4.13, education (0.1430), extension contact (0.5083), access to credit (15.7263) and marital status (1.9196) were significant. Education was positively and significantly influential to the attitude of farmers towards CBARDP. This variable was significant at 5% level of probability. The implication of this is that the higher the level of education of the respondents the more positive attitude they have towards CBARDP. Education exposes farmers to available information in the area of interest, enhances learning capacity and improves attitude towards change.

The coefficients for extension contact (0.5083) and access to credit (15.7263) were positively and significantly influential on the attitude of the farmers. Extension contact was significant at 1% level of probability. This revealed that extension activities in the

area have contributed to positive attitude of the farmers towards CBARDP. The estimated parameter (1.9196) obtained for marital status was also positively and significantly influential on the attitude of the farmers. This was significant at 1% level of probability. This indicates that the marital status of majority of the farmers the area contributed to positive attitude of the farmers towards CBARD projects. This may be due to the aim of sustaining their envisaged large house hold size through whatever benefit the programme may offer.

Based on the findings of this study the null hypothesis which stated that ‘socio-economic factors have no significant influence on farmers’ attitude towards CBARDP’ was rejected because education, extension contact and access to credit and marital status had influence on farmers’ attitude towards CBARDP. The R-square was 0.68 which indicates that independent variables jointly explained 68 percent of the variation that occurred in the dependent variable (Farmers’ attitude).

Table 4.13: Socio-economic and institutional factors influencing farmers' attitude towards CBARDP

Variable	Coefficient	Standard error	t- value
Intercept	58.7355	1.2339	47.60***
Socio-economic variables			
Age	-0.0135	0.0243	-0.55 ^{NS}
Education	0.1430	0.0713	2.00**
Household size	0.1540	0.2189	0.70 ^{NS}
Sex of respondents	0.0016	0.0026	0.62 ^{NS}
Marital status	1.9196	0.5805	3.31***
Institutional Variable			
Membership of associations	0.3587	0.1940	1.85*
Extension contact	0.5083	0.0954	5.33***
Access to credit	15.7263	1.0337	15.21***

*** = p< 0.01, ** = p<0.05%, * = p<0.10 and NS = Not significant
 $R^2 = 0.68$, $R^{-2} = 0.67$ F value = 48.44***

Hypothesis 2:

It was also hypothesized that farmers' socio-economic characteristics had no significant influence on their participation in CBARDP. The socio-economic and institutional factors considered here were: age, sex of respondents, marital status, education, household size, membership of associations, extension contact and access to credit. Result presented in Table 4.14 show that age was positively and significantly influential on participation in CBARDP with regression coefficient of 0.0269. This variable was significant at 1% level of probability. Bonabana-Wabbi (2006) similarly opined that adoption pay-offs occur over a long period of time, while costs occur in the earlier

stages, age (time) of the farmer can have a profound effect on participation and technology adoption. The coefficient (0.1893) for education was also positively and significantly influential on farmers' participation in CBARDP. This variable was significant at 5% level of probability. The implication of this is that education increase farmers' preference and propensity to participate in CBARDP. The significance of education hinges on the fact that it would enhance farmers' knowledge of the importance of the programme which would increase their participation. This finding reaffirms the position of Ogunbameru *et al.* (2006) who identified age and education as factors affecting participation in urban agriculture.

Membership of associations was also positive and significantly influential on farmers' participation in CBARDP. This was significant at 1% level of probability. This indicates that membership of associations enhanced farmers participation in CBARDP. This finding was consistent with the finding of Nwaobiala (2014) in her study on socio-economic factors influencing farmers' participation in community based programme in Abia and cross river States. She found a positive relationship between membership of associations and participation in CBARDP.

Furthermore, extension contact and access to credit were significantly and positively related to farmers' participation in CBARDP. The variable was significant at 5% level of probability. Access to credit was significantly and positively related to the dependent variable at 1% level of probability. The positive coefficient of credit suggests that if farmers had more access to credit, it could encourage their participation in CBARDP.

The coefficients of household size (-0.0327), sex (0.0010) and marital status (0.1534) were however, not significant. The coefficient for household size was negative indicating an inverse relationship. One possible explanation for this relationship might be that most of the participants now discourage over reliance on family labour on the farm to enable their children have access to formal education. The result for marital status was contrary to that reported by Sabo (2006) which showed significant relationship between marital status and participation in Women in Agriculture (WIA) programme in Borno State.

Based on the findings of this study the null hypothesis which states that ‘socio-economic and institutional factors have no significant influence on farmers’ participation in CBARDP’ was rejected. This is because age, education, membership of associations, extension contact and access to credit were found to be influencing farmers’ participation in CBARDP. The R-square was 0.51 which indicates that the independent variables jointly explained 51 percent of the variation that occurred in the dependent variable (Farmers’ Participation).

Table 4.14: Socio-economic and institutional factors influencing farmers’ participation in CBARDP in the study areas

Variable	Coefficient	Standard error	t- value
Intercept	0.9316	0.4307	2.16**
Socio-economic variable			
Age	0.0269	0.0085	3.17***
Education	0.1893	0.0764	2.48**
Household size	-0.0327	0.0249	-1.32 ^{NS}

Sex	0.0010	0.0006	1.15 ^{NS}
Marital Status	0.1534	0.2026	0.76 ^{NS}
Institutional variable			
Membership of association	0.1804	0.06772	2.66***
Extension contact	0.0794	0.0333	2.48**
Access to credit	3.5380	0.3608	9.81***

*** = $p < 0.01$, ** = $p < 0.05$ and NS = Not significant
 $R^2 = 0.51$, $R^2 = 0.49$ F value = 23.93***

4.5 Effect of Participating in CBARDP on Yield and Income of Farmers

The fifth objective was to determine the effect of farmers' participation in CBARDP on their yield and income. Paired t-test was used to achieve this objective. The results were used to test the third hypothesis of the study and the results are presented and discussed below.

Hypothesis 3:

It was further hypothesized that farmers' participation in CBARDP had no significant effect on yield and income. The results presented in Table 4.15 shows the effect of participation in CBARDP through the analysis of farmers' maize yield and income before and after their involvement in CBARDP. The estimated average yield was 1340.04t/ha before the participation and 2087.25t/ha after the participation. The observed yield increase after participation was 55.76%. The maximum yields before and after the participation were 6000t/ha and 8000t/ha respectively. The minimum yields before and after the participation were 500t/ha and 750t/ha respectively. The t-value (18.27) was significant at 1% level of probability. This implies that there was a highly

significant difference between the yields participating farmers before and after their involvement in CBARDP activities.

Also, the result revealed that, the average income was N111,459.00 before the participation and N193,903.70 after the participation in CBARDP. The maximum income before and after the participation were N310,000.00 and N1,195,000.00 respectively. The minimum incomes before and after participation was estimated to be N50,000.00 and N110,000.00, respectively. The rate of increase after participation was 73.97%. The t-value (10.09) was significant at 1% level of probability. These findings revealed that the income of farmers after participation was greater than income before the participation. This result implied that farmers' participation in CBARDP increases their yields and income. The implication is that the higher yields translate to higher income to the farmers and consequently, improved standard of living. The increase in income of the participating farmers observed in this study was constituent with the findings of Adeolu and Taiwo (2004) in their study of the impact of the National Fadama Facility in alleviating rural poverty and enhancing agricultural development in South-Western Nigeria. Based on the findings of this study, the null hypothesis was rejected because participation had significant influence on both yield and income of the participating farmers.

Table 4.15: Effect of participating in CBARDP on yield and income of farmers

Variable	Before (2002)	After (2012)	Difference	Differential (%)
Yield(t/ha)				
Mean	1340.04	2087.25	747.21	55.76

Maximum	6000.00	8000.00	2000.00
Minimum	500.00	750.00	250.00
St. Dev.	999.96	1430.99	562.39
Coefficient of variation CV (%)	74.62	68.56	
Paired t-value	18.27***		

Income

Income (Naira)

Mean	111459.90	193903.70	82443.85	73.97
Maximum	310000.00	1195000.00	885000.00	
Minimum	50000.00	110000.00	60000.00	
St. Dev.	49245.19	134504.40	111672	
Coefficient of variation CV	44.18	69.88		
Paired t-value	10.09***			

*** = p< 0.01

4.6 Constraints to Effective Participation of Farmers in CBARD Programme

The sixth objective of the study was to identify the major constraints to effective participation of farmers in CBARD programme. The results in Table 4.16 show the ranking of the constraints according to the order of severity. It was revealed that inadequate planting materials and farm inputs were ranked first as 93.1 percent of the respondents encountered this problem. Onuekwusi and Ottah,(2006) asserted that lack of infrastructure and essential inputs hinders farmers' participation in agriculture and rural development activities. Inadequate finance and credit facilities were ranked second

and this was closely followed by high cost of farm inputs and lack of market for produce which were ranked third among the constraints faced by the farmers. More than three quarters of the respondents encountered these constraints. The problem of communication barrier was the least among the constraints to effective participation of farmers in CBARD programme. Igonoh (2011) reported that low level of education and training, untimely disbursement of funds, untimely distribution/high cost of inputs, hijack of inputs and funds by the elites, delay in association contribution, poor storage facilities, poor marketing system and weak extension contact were the major impediments to agricultural programme implementation. Ogunbameru *et al.* (2006) also identified factors such as access to credit and other agricultural inputs as militating against active participation of women in WIA programme.

Table 4.16: Constraints for effective participation of the respondents in CBARD programme

Constraints	Frequency	Percentage	Rank
Inadequate planting materials and farm input	176	93.1	1
Inadequate finance and credit facilities	170	89.9	2
High cost of farm input	169	89.4	3
Lack of market for produce	169	89.4	3
Poor educational background	57	30.2	5
Lack of cooperation between farmers and extension workers	39	20.6	6
Low participation of women due to religious reasons	40	21.2	7
Communication barrier	42	22.2	8
Health Problem	10	5.3	9

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The broad objective of the study was to determine factors influencing farmers' attitude and participation in Community-Based Agriculture and Rural Development Programme (CBARDP) in Kaduna State. A multi-stage sampling technique was used. In the first stage, two Local Government Areas (LGAs) in the State were purposively selected because they had the highest number of participating farmers out of the participating (LGAs). In the second stage, three benefiting villages were randomly selected from each of the Local Government Areas through lottery method and a total of 189 respondents were used for the study. Data were collected using a structured questionnaire that was administered to participants of the CBARD programme. Analytical techniques employed in this study were descriptive statistics and multiple regression analysis and paired t-test.

The first objective of the study was to describe the socio-economic characteristics of farmers participating in CBARDP. The mean age of the respondent was 43 years. About 86% of the respondents were married, while 13.8% were single. Also, 50.3% of the participating farmers did not have formal education while 25.9% and 15.3% had primary and secondary education respectively. Majority (54%) of the respondents had household sizes ranging between 1-5 persons. The average household size was 6 persons. About 94% of the respondents belonged to cooperative associations, while 5.8% did not belong to any association. Majority (66.7%) of the respondents had between 3-4 contacts with extension agents in a year. The average contact of farmers with the agents during the growing season was 4 times.

The second objective was to examine the attitude of farmers towards CBARDP. It was revealed that farmers had different perception about CBARDP. About 68% of farmers had agreed that CBARDP had enhanced food security. However, about three quarters of the farmers disagreed with the statement that CBARDP had enhanced farmers' access to land. Most (77.8 %) of the respondents strongly agreed that CBARDP had improved farmers' access to extension services. It was also revealed that 74.6% agreed that CBARDP had improved capacity building among participants. The result also showed that CBARDP did not increase farmers' access to markets. Majority of the farmers (81%) agreed that CBARDP had improved investment in agriculture. Also, 84 percent of the respondents agreed that CBARDP was not highly bureaucratic. More than three quarters of the respondents agreed also with the statement that CBARDP had improved farmers' yields, living condition and annual income. The attitude of farmers towards the programme was positive with an overall weighted mean score of 3.59.

Objective three of this study was to identify the level of farmers' participation in the Community-Based Agriculture and Rural Development Programme (CBARDP). The results revealed that farmers had moderate participation in CBARDP. About 70% described their participation as moderate while 16.40% described their participation as low.

The fourth objective was to determine socio-economic and institutional factors influencing the participation and attitude of farmers in CBARDP in the study area. The significant factors influencing the attitude of the farmers were marital status (1.9196), education (0.1430), extension contact (0.5083) and access to credit (15.7263).

Age(0.0269), education (0.1893), extension contact (0.0794)and access to credit (3.5380) were positively and significantly related to farmers' participation inCBARDP.

The fifth objective was to determine the effect of participation in CBARDP on yield and income. The estimated average yield was 1,340.04kg/ha before participation and 2,087.25kg/ha after participation in CBARDP. The rate of increase after participation was 55.76%. The t-value (18.27) was significant at 1% level of probability. Also, the results revealed that, the average income was N111,459 before the participation and N193,903.70 after the participation in CBARDP. The estimated differential percentage was 73.97%. The t- value (10.09) was significant at 1% level of probability.

The sixth objective of the study was to identify the major constraints to effective participation of farmers in CBARDP. Inadequate planting materials and farm input were ranked first as 93.1 percent of the respondents encounteredthese problems. Inadequate finance and credit facilities were ranked second and this was closely followed by high cost of farm inputs and lack of market for farm produce which were ranked third among the constraints faced by the farmers. More than three quarters of the respondents encountered these constraints. The Problem of communication barrier was the least important among the constraints to effective participation of farmers in the programme.

5.2 Conclusion

The findings of this study indicated that farmers had positive attitude towards CBARDP but had moderate level of participation. The results favoured the alternative hypothesis which state that socio-economic and institutional factors significantly influence attitude and participation of the farmers towards CBARD programmes. This revealed that

marital status, education, extension contact, membership of association and access to credit were important and significant factors to be considered in farmers' attitude toward CBARD programme while age, education, membership of associations, extension contact and access to credit were important and significant factors to be considered in farmers' participation in CBARDP. This suggests that any effort to ensure positive attitude and increase farmers' participation must focus attention to these socio-economic and institutional factors. The programme benefitted the farmers since they experienced increase in their yield and income.

5.3 Recommendations

Based on the results of the study, the following recommendations were made as means for ensuring effective participation of farmers in CBARDP.

- i) In order to address the problem of inadequate inputs and planting materials which was identified as one of the major constraints to effective participation of farmers in CBARDP, it was recommended that CBARDP should collaborate with agro-inputs firms in the supply of inputs to the farmers.
- ii) It was found that the problem of inadequate finance and credit facilities was limiting effective participation of farmers in CBARD projects. Therefore, it was recommended that farmers should organize themselves into credit relieving societies through their cooperatives, to take care of their financial needs and also augment their personal savings.
- iii) It was found that CBARDP had positive influence on the crop yields and income of the participating farmers. Therefore it was recommended that a similar programme should be organized in other local government area by

Government and Non-Governmental agencies so as to improve farmers' welfare and level of living.

- iv) Farmers' age was found to positively and significantly influence farmers' participation in CBARDP. Therefore, it was recommended that government should ensure enlightenment trainings should be carried out on older farmers in order to encourage them on their relevance indevelopment programmes.
- v) Institutional factors like membership of associations, access to credit and extension contact influenced farmers' attitude and participation in CBARD project. Therefore, adequate attention should be paid to these variables by CBARDP in order to improve farmers' participation.

5.4 Contribution to Knowledge

The study reveals that:

- i. Factors like age, education, extension contact, membership of associations and access to credit are positively and significantly influential to farmers' participation in CBARDP in the study area.
- ii. The significant factors influencing the attitude of the farmers towards CBARDP were education, extension contact, access to credit and farmers' marital status.
- iii. The farmers had positive attitude towards CBARDP and about 70% of them participated moderately in the programme.

- iv. The farmers' maize yield and income increased by 55.76% and 73.97% respectively as a result of their participation in CBARDP.

5.5 Suggestions for Further Study

From the findings and conclusion of this study, the following suggestions for further study are made:

- i. There is need to carryout comprehensive study on the impact of CBARDP on farmers marketing in the study area.
- ii. Comparative study of CBARDP and other agricultural programme of Kaduna State Agricultural Development Project (KADP) is further suggested in order to evaluate their performance and contribution in improving the living conditions of the targeted population.

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APPENDIX I: RESEARCH QUESTIONNAIRE FOR RESPONDENTS

Dear Respondent,

This questionnaire will be used by a student of the Department of Agricultural Economics and Rural sociology, Ahmadu Bello University, Zaria. Please, fill as appropriate. All information will be treated with confidentiality and strictly for the purpose of research. Thanks for your co-operation.

Village/Community.....L.G.A

A. SOCIO –ECONOMIC CHARATERISTICS

1. Name of Respondent.....
2. Sex: Male () Female ()
3. Age (years).....
4. Marital status: Married () Single () Divorced () Widowed ()
5. Highest level of Education:
 - (a) No Formal Education () (b) Primary school Education () (c) Secondary School Education () (d) Tertiary Education ()
6. Family Size (All the number of the people depending on you for living).....
 - (a) No of Adult Males () (b) No of Adult female () (c) Children >15yrs ()
 - (d) Children <15yrs ()
7. How long have you been in CBARD Programme? (Years of experience).....
8. Do you belong to any co-operative/Association? Yes () No ()
9. If yes, (Years of participation) -----
10. What benefit did you derive from your participation as a member?.....
.....

11. Have you been visited by an extension agent? Yes () No ()
12. If Yes, How many times in last one year?
13. What activities did the agent teach you?
14. Have you been trained on any farming activity? Yes () No ()
15. If Yes, which organization conducted the training?
16. Was the training beneficial to you?
 - a. Not beneficial () b. somehow beneficial () c. beneficial () d. very beneficial ()
17. How many hectares of land do you cultivate?..... hectare
18. Kindly specify the tenancy status of land you cultivate a. Inheritance () b. Purchase () c. Gift () Lease () d. Rent () e. Others specify.....
19. Did you obtain credit last farming season? Yes () No ()
20. If yes, in what form did you receive the credit? a. Cash () b. Farm input () c. Other (specify).....
21. If in form of cash indicate the amount..... naira
22. If it is in form of input indicate the items and quantities {a} Seeds{.....Kg} (b) Fertilizer {.....Kg} {c} Pesticides (.....Kg) (d) Others.....
23. What is the total amount received as subsidies from CBARD project?

B.Farmers' attitude towards participation in CBARD Programme

Attitudes of farmers towards CBARDP	Strongly Agree	Agreed	Undecided	disagree	Strongly disagree
Participation in CBARDP enhances household food security					
Participation in CBARDP improves adoption status					
Participation in CBARDP enhances Access to land					
Access to extension services					
Capacity building					
Access to market					
Participation improves investment in agriculture					
Participation attracts investors					
Participation enhances job creation					
Participation increases diversification of livelihood					
CBARD Projects are not bureaucratic					

CBARD Projects are not people oriented					
CBARD Project mobilization strategy does not encourage participation					
Participation in CBARDP does not enhance project sustainability					
CBARD Projects do not enhance agricultural development					
Participation does not determine projects impacts					
CBARDP led to increase in your crop yield					
CBARDP improved your living condition					
CBARDP brought about increase in your annual income					

C. Level of farmers' participation in Community-Based Agriculture and Rural Development Programme (CBARDP).

24. Are you aware of CBARD Programme? Yes (). No ()
25. If yes, from whom did you get to be aware of CBARD Programme?
 (i) Friends & Relations (). (ii) Extension Agents (). (iii) Mass media ().(iv) others (specify).....
26. Kindly describe your mode of participation in CBARD Programmebased on the following:
 a. active () b. Passive ()
27. Is the CBARD Programme participation voluntary or involuntary?

28. How regularly does the CBARD Programme hold meetings, and what is your level of attendance?

Regularity of meetings	Level of attendance		
	High	Moderate	Low
i. Weekly ()
ii. Fortnightly ()
iii. Monthly ()
iv. Others (specify)

29. How many activities did CBARDP carry out in your area?
30. How many of the activities did you participate in?

31. Kindly rate your participation in CBARDP activities. Low () Moderate ()
High () based on your participation in activities as indicated below:

1-2 Activities (Low)

3-4 Activities (Moderate)

5-6 Activities (High)

32. Did CBARD Programme bring more job opportunities? Yes () No ()

33. Did the CBARD Programme give support to her members? Yes () No ()

34. If yes, what are the conditions for giving support?

.....

35. Which support services did the CBARD Programme render to its members?

(Tick as appropriate)

i. Conflict mediation ()

ii. Financial support (credit) ()

iii. Capacity building ()

iv. Access to knowledge ()

v. Access to market ()

vi. Training/ Education ()

viii. Others (specify).....

36. Do you have internal conflict in the CBARD Programme? Yes () No ()

37. If yes, how do you resolve such conflicts?

38. How can you describe the decision making process of the CBARD Programme?

By leaders only () By some selected few () By all members of the CBARD
Programme ()

39. What are the expected roles of the CBARD Programme? (Tick as appropriate)

Arrange funds to finance agricultural projects () Create awareness () Organize

Agricultural workshops () Encourage farming () Supply of agricultural inputs ()

Market members' products () Establish unity among community members ()

Provide access to micro-credit () Free advisory service () others (specify)

40. What social infrastructures has CBARDP brought to the area? a. Roads () b.

Electricity () c. School () d. Good drinking water () e. Recreation () f.

Communication network ()

Others specify

41. Kindly specify

Output of maize produced	Before Programme (2002)	After the Programme (2012)
1-5 Tonnes		
6-10 Tonnes		
11 Tonnes and above		

42. What area of your living condition was improved as a result of your involvement in

CBARDP a. Feeding () b. Health () c. Children's education () d. Clothing ()

Others, specify

43. Kindly Specify

Income from maize sold	Before Programme (2002)	After Programme (2012)
N10,000- N50,000		
N51,000 – N100,000		
Others		

D. Constraints for Effective Participation in CBARD Programme?

44. What are your major constraints in participation in CBARD Programme?

Constraints	Response
Inadequate planting materials and farm input	Yes () No ()
Inadequate finance and credit facilities	Yes () No ()
High cost of farm input	Yes () No ()
Health problem	Yes () No ()
Lack of market for produce	Yes () No ()
Communication barrier	Yes () No ()
Poor participation of women due to religious reasons	Yes () No ()
Lack of cooperation between the farmers and extension workers	Yes () No ()
Poor education background	Yes () No ()

45. State other constraints apart from the one highlighted above.

(i)

(ii)

(iii)

(iv).....

(v)

46. What suggestions will you give to help in solving the above constraints for effective participation in CBARD Programme?

(i)

(ii)

(iii)

(iv)

(v)

Thanks for your Attention