EFFECTS OF IFAD/ VALUE CHAIN DEVELOPMENT PROGRAMME ON SMALLHOLDER FARMERS PRODUCTIVITY AND ACCESS TO SOCIO-ECONOMIC WELL-BEING IN TARABA STATE, NIGERIA

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EXECUTIVE SUMMARY

The contribution of smallholder farmers to enhancing food security can be improved by linking smallholders to big markets in the agricultural supply chain. But in recent time due to high demand for high–value agricultural products, more stringent food safety and quality requirements, and the emergence of supply-chain integration, there is a risk of a potential exclusion of small–scale producers from the growing markets. This makes smallholder farmers unable to engage in lucrative markets. Getting linkages to markets is easy for smallholder farmers since they are producing on a small scale but it is difficult to satisfy the market to achieve consistency and remain sustainable. This expresses the need for smallholders to access value addition means. But yet smallholder farmers in developing countries are mostly located in the rural areas that lack basic infrastructural facilities. Additionally, one of the major problems faced by most funded agricultural projects including IFAD projects is an underachievement of objective or goal. This can be attributed to diversion of inputs for other purposes, poor implementation strategies, policy and political inconsistency. It is important to carry out this research among smallholder farmers in Taraba state who are 80% of the state's population as this is intended to show the level of improvement in the socio-economic well-being of the beneficiaries, the level of productivity and the socio-economic characteristics of the beneficiaries.

The objectives of the study is to analyse the level of productivity of the beneficiaries of IFAD/VCDP, and to examine the effects of IFAD/VCDP on the socio-economic wellbeing of the beneficiaries in Taraba State, Nigeria.

The study is based on the Random Utility Model (RUM), which is founded on the assumption that an individual will make a choice that yields the highest utility. The farmer will therefore make profit based on the utility achieved by selling rice or cassava to a certain marketing outlet. Multi-stage sampling technique was used. Three LGAs were randomly selected from the 5 LGAs participating in the VCDP/IFAD, after which 133 respondents were selected from Ardokola, 96 respondents from Gassol and 135 respondents from Wukari Local government areas. A total of 364 respondents were used for the study. All the 364 copies of the questionnaire administered were retrieved and used for the data analysis. Data for the study were obtained from primary source using structured questionnaires and also interview guide to conduct in-depth key

informant interview. SPSS version 22 IPBM was used for the data entries. Descriptive and inferential statistics such as frequencies, percentages, means and standard deviations were used for data analysis.

The age of the respondents showed that the least and highest were 18 years and 67 years respectively, with an average of approximately 39 years. The results also showed that the least and highest observed household sizes were 1 person and 30 persons respectively, with an average household size of 8 persons. Results also revealed a minimum and maximum monthly income of 5,000 (naira) and 500,000 (naira) respectively, with an overall average of approximately 36,000 (naira). The results also revealed that about 36% of the farmers personally owned their farmlands; while about 23% cultivate their crops on rented/leased farmlands; up to 40% indicated their farmlands were family owned; and lastly, not more than 1% indicated their farmlands were communal owned. Furthermore, the study revealed that about 77% were farmers who were into farm production; about 19% were into processing of farm produce; and, 3% were into marketing of farm produce.

Results also showed that up to 98% of the farmers perceived their production capability has been enhanced since the commencement of the IFAD. About 95% responded said that the support they have had through the IFAD, with regards to their farming inputs, has been adequate. Up to 97% of the farmers stated that the barriers and bottle necks along the value chain has been adequately addressed. About 94% reported they have received improved rice seedlings and cassava cuttings since their participation in the IFAD programme. Approximately, 97% of the interviewed farmers indicated they have experienced increased sales output since they began participating in this program. It was obtained among cassava producers only that the least and highest yield recorded

Overall, there has been increase in income and productivity of smallholder farmers benefitting from the value chain development programme. They have also benefitted immensely from various trainings organized by VCDP which has also assisted them in moving from crude method of farming to a mechanized one.

Keywords: Smallholder farmers, productivity, Socio-economic wellbeing, rural livelihood Strategies, Value Chain, Value Chain Development Programme.

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Acronyms and Abbreviations

ADPs	Agricultural Development Programmes
CRP	CGIAR Research Programme
FAO	Food and Agriculture Organisation of the United Nations
CAF	Commodity Alliance Forum
FGN	Federal Government of Nigeria
FGD	Focus Group Discussion
FOs	Farmer Organizations
IFAD	International Fund for Agricultural Development
LGAs	Local Government Areas
MOU	Memorandum of Understanding
UNs	United Nations
VCDP	Value Chain Development Programme
PIM	Programme implementation manual
UNIDO	United Nations Industrial Development Organization

Chapter One
INTRODUCTION

1.1 Background to the study

Arable land is shrinking in the developed world and Africa with her land expanse of arable land is expected to be a critical resource to fill this gap (Mgbenka et al., 2015). The performance of African agriculture has been disappointing over many decades. Sub-Saharan Africa is reported as the only region in which per capita agricultural value added has not seen a substantial increase, but a declining trend on average over the last three decades since 1961 with considerable variation over time and across countries (Wayo et al. 2011). This declining per capita food production has resulted in increasing rural poverty, rising food prices, widespread famines and increasing food imports.

It is frustrating to note that the Green Revolution, which has saved many lives in Asia and South America, has bypassed Africa and hunger still prevails on the continent despite the past research and development efforts. Some of the factors hindering agricultural development in Africa include, *inter alia*, inadequate investment in agriculture, limited access to credit by smallholder farmers, high cost and unavailability of inputs such as fertilizers and improved seeds, inadequate use of modern technologies, inefficient agricultural input markets, and the absence of a conducive policy environment (Ogunjimi, Alao, and Alabi 2017).

The use of improved agricultural inputs in Africa is very low and has remained largely static over the last 25 years; lower input usage are in smallholder food crop and livestock production systems. According to Salami et al. (2010), efficient input markets are also crucially important in order to deliver the right product, at the right time, in the right amounts, at a convenient place, and for an affordable price. Moreover, access to input and output markets are a key precondition for the transformation of the agricultural sector from subsistence to commercial production, therefore, smallholder farmers must be able to benefit more from efficient markets and local-level value- addition, and be more exposed to competition (Salami, Kamara, and Brixiova 2010a).

Nigeria has a large expanse of agricultural land. This constitutes 77.7 per cent of Nigeria's total land area which is 910.8 thousand square kilometres. Of this total, 37.3 per cent is arable land,

7.4 per cent is under permanent crop and 9.0 percent is under forest (IFAD 2016). Therefore, substantial land is still available for agricultural activities. Most importantly, Nigeria's agriculture is diverse, presenting various opportunities. It includes four sub-sectors, namely; crop, livestock, fishery and forestry. The crop sub-sector accounts for about 90.0 per cent of agricultural production in Nigeria, followed by the livestock sub-sector which contributes about 7.0 per cent. Nigeria with a land mass of 98.3 million hectares (half of which is yet to be exploited) that is good for farming is thus supposed to be one of the leading sources of agricultural produce if efforts aimed at revamping the agricultural sector is successful(Adebayo 2012).

The agricultural sector contributes about a quarter of Nigeria's GDP, providing a livelihood for 70% of the population with a dominant role being played by small holder farmers (PricewaterhouseCoopers 2016 Country Report). However, food supply deficit cost Nigeria 10 million USD in food import annually. Food and Agricultural Organization of the United Nations (FAO) has estimated Nigeria's cereal import (mostly rice and wheat) for 2015 at over 7.5 million tonnes and, Nigeria is said to be the largest rice importer in Africa (Rapsomanikis 2015).

Farm cultivation in Nigeria is predominantly small scale with more than 80% of farmers in Nigeria being small holder farmers (Olukunle 2013). These farmers produce 98% of food consumed in Nigeria. Over the years, deliberate efforts have been made to improve agricultural production by Nigerian governments and foreign bodies, these have not yielded expected results. Several factors militate against small holder farming in Nigeria including economic, political and financial constraints. This failure have also been attributed to adapted transformation approach to agriculture which is characterized by introduction of a wide variety of large scale farming and processing technologies. Emphasis is now on small scale improvement approach which is more attuned to Nigeria's age-long farm practices. A farm that is less than 10 hectares is defined as small scale (Mgbenka, Mbah, and Ezeano 2015). The average land holding by farmers in Nigeria is 1-3 hectares. According to the Federal office of Statisitcs (1999), small holder farmers are farmers with production capacity between 0.1-4.99 hectares. These small holder farmers depend on their personal efficiency in the utilisation of basic production resources available to them. They have limited access to improved technologies, have no tangible investment in capital, labour and inputs.

The high cost of production, limited access to credit, lack of market sometimes leading to impoverishment and discouragement from production, poor access to market information, farm efficiency information and inefficient or limited deployment of modern farm inputs make these farmers vulnerable to market shocks, thus they are now the focus of donor agencies and government in farmers empowerment and improvement of food security. Dambatta et al., 2012 reported that the agricultural transformation of the Goodluck Jonathan era was expected to generate 3.5 million jobs through the value chains of several commodities and create wealth for farmers (Mgbenka, Mbah, and Ezeano 2015). The contribution of smallholder farmers to food security can be improved if they are linked to big markets in the agricultural supply chain. In recent times, there has been high demand for high–value agricultural products, along with more stringent food safety and quality requirements and the emergence of supply-chain integration. All these changes forebode the potential exclusion of small –scale producers from the growing markets. The inability of small holder farmers to engage in lucrative markets is great cause for concern. Bienabe, Coronel, Le Coq and Liagre(2004:6) contended that " agriculture is becoming increasingly integrated and small holder farmers are often disadvantaged , and actions must be taken to help them draw profit from their integration into markets" (Bienabe et al. 2004).

Getting linkages to markets is easy since they are producing on a small scale but it is difficult to satisfy the market to achieve consistency and remain sustainable. Small holder farmers in developing countries are mostly located in the rural areas that lack basic infrastructural facilities. The International Foundation for Agricultural Development (IFAD) observed that a number of negative factors militate against high productivity, in small scale agriculture making large proportion of small scale agriculture to be uncompetitive, neither profit or business oriented nor sustainable (IFAD 2016; IFAD and Onyilo 2007). These vicious cycle of low productivity and income, shortage of cash and limited investment, limited input availability and use, lack of market access and credible processing and trading outlets warranted government investment in the development of various value chains to enhance farmers' productivity and socio-economic well-being.

According to United Nations Industrial Development Organization (UNIDO, 2009), the concept of value chain is defined as the full range of activities which are required to bring a product or a service from conception through the intermediary phases of production (involving a combination

of physical transformation and the input of various producer services), and delivery to final consumers and final disposal after use (cited in Olukunle 2013). A value chain exists when all of the actors in the chain operate in a way that maximises the generation of value along the chain. It can also be described as a series of sequential activities where at each step in the process, the product passing through this chain of activities gains some value. The farm and all the intermediary processes constitute the agricultural sector. By definition, agricultural income is the farmer's value added plus value added at all the nodes of the post-harvest activity until reaching the last intermediary who interfaces with the consumer. Value chains develop rural-urban linkages through which agricultural production in the rural areas provide the growing cities with affordable and quality food and raw materials for the industry (Smith and Pickles 2011). Value chain also provides potential benefits for both rural producers and urban consumers. Value chain promotion is an effective way of fostering rural urban linkages for several reasons. The concept provides a useful analytical framework for market and sub-sector analysis and describes productive processes around a product from the provision of inputs to production, transportation, transformation, processing, marketing, trading, and retailing to final consumption.

Secondly, value chain emphasizes that most goods are produced by a sequence of interlinked actors and activities. The approach focuses on the analysis of the institutional arrangements that link the various economic players (vertical and horizontal integration, organization and contracts). Thirdly, it highlights the importance of private sector development. It provides a holistic framework which can encompass a number of different development activities for the purpose of fostering agricultural growth (UNIDO 2009). Hence, agricultural value chains link urban consumption with rural production. Urban driven demand, emergence of modern consumption patterns or new trends in international trade, impacts on rural areas along value chains and spills over to marketing and production systems. These rural-urban linkages bear challenges but also mutual benefits for producers and consumers and can be entry points for development through income and employment generation and poverty reduction. When high rates of agricultural growth through development of agricultural value chain lead to sustained increase in productive capacity, employment opportunities and rising productivity are generated (Ponsian, 2012. cited in Olukunle 2013).

1.2 Problem Statement

In recent times, there has been a continuously rising demand for high–value agricultural products. This is happening along with more stringent food safety and quality requirements (by private actors and public government) and the emergence of supply chain integration. All these changes in the value chain forebode the potential exclusion of small–scale producers from the growing markets and work against the efforts to increase their agriculture productivity and reduce rural poverty. Bienabe, Coronel, Le Coq and Liagre in 2004 contend that "agriculture is becoming increasingly integrated and smallholder farmers are often disadvantaged, and actions must be taken to help them draw profit from their integration into markets" (Bienabe et al. 2004). The inability of smallholder farmers to participate in lucrative markets is a great cause of concern because if they are not linked to big markets in the agricultural supply chain, they cannot contribute to enhancing food security nor have their access to socio-economic wellbeing improved. This was why discussions on value chain development began in the 1990s to see how poverty can be reduced in rural areas through smallholders' participation in the agri-food value chain.

Getting linkages to markets however is easy since they are producing on a small scale but it is difficult to satisfy the market to achieve consistency and remain sustainable. Small holder farmers in developing countries are mostly located in the rural areas that lack basic infrastructural facilities. To achieve this, the Value Chain Development Programme was initiated with support from the International Fund for Agricultural Development with Taraba as one of the benefitting states in Nigeria. The goal of the Value Chain Development Programme is to reduce rural poverty and achieve accelerated economic growth on a sustainable basis. But often times, as noted by Stoian and his colleagues (Stoian et al. 2012), little is known about its impact on rural poverty even though value chain development is tied to many developmental agenda. Tanburn and Sen (2011) also stress that developmental agencies have failed many times to measure and report the significant performance of their poverty-reduction-focused projects (Tanburn and Sen 2011). Without an external evaluation of the impacts of value chain development on smallholders' welfare, funding agencies and development workers will only continue to put in effort without being sure what the results are and where improvements need to be made (Donovan and Poole 2011).

The study seeks to answer the research questions below;

- Is there improvement in the level of productivity of smallholder farmers in the Value Chain Development Programme?

- What is the level of improvement in the socio-economic well-being of the beneficiaries in Taraba state Nigeria?

1.3 Objectives of the Study

The overall objective of the study is to evaluate the impacts of various interventions of the IFAD/VCDP on the socio-economic conditions of smallholder farmers in Taraba state in terms of farm productivity, income, employment generation and the general standards of living of the smallholder farmers. The specific objectives of this study are:

- To analyse the level of productivity of the beneficiaries of value chain development programme.
- To examine the effects of VCDP on the socio-economic well-being of the beneficiaries in Taraba State Nigeria.

1.4 Justification of the study

Little work has been done on the effects of the IFAD VCDP on farmers' productivity and socio-economic well-being in Nigeria. The few studies and reports have given conflicting results. Kopparthi et al. (2016) in an analysis of the rice value chain in Rwanda reported that farmers encountered constraints to access formal credit (Kopparthi and Alice 2016). In this analysis, the farmers acknowledged that funding received though insufficient had impacted positively their lives' standards. The increased financing of the value chain and involvement of the farmers resulted in increased access to health services, educational services for their children and enabled them to acquire new assets. Olukunle et al. in his analysis of the cassava value chain in Nigeria reported that cassava production is increasing at 3% per year, with generation of more employment and increase in incomes of the farmers. However, he noted the persisting inadequacy in cassava production, processing and marketing (Olukunle 2013).

The IFAD VCDP 2016 supervision report claimed that overall, the programme has achieved 28.1% of its 2015 and 2016 physical targets and 27.3% of its financial targets, reflecting some level of prudence in the overall utilization of resources (IFAD West and Central Africa Division Programme Management Department 2016). The report concluded that VCDP implementation is on track to achieve its development objectives, based on available evidence in the field having established the key implementation structures and mobilized and profiled 999 producer organizations (POs) with a total of 15,240 farmers (11,227 for rice and 4,013 for cassava) against a target of 2,250 producer organizations and 270,000 farmers. The farmers have been assisted to put 18,530ha under cultivation (12,521.7ha for rice and 6,009ha for cassava). In keeping with its value chain approach, the programme has established partnerships with major buyers of farmers' produce and facilitated a linkage between them and the farmer groups (IFAD West and Central Africa Division Programme Management Department 2016).

On the contrary, The FAO small family farms country fact sheet (Nigeria) reported that 2% of cropland is irrigated, only 16% have access to motorized equipment and only 6% of households benefit from agricultural extension services in form of knowledge and information transfer. Only 44.5% of households use fertilisers and only 26% of produce are sold on average (Schenck 2018). This is of serious concern despite the IFAD VCDP and its engagement of small holder farmers. Ogunniyi et al. in 2015 however reported that participating households had better livelihood and productivity outcomes and have more diversified income portfolios as a result of greater linkages to markets and capacity building opportunities (Adebayo and Olagunju 2015).

In addition, food insecurity and hunger are forerunners to nutritional health, human and economic development. An independent analysis of the impact of the IFAD VCDP in Taraba State has not been carried out despite the enormous funds expended in the Taraba rice and cassava value chain. Therefore, it is important to carry out this research among smallholder farmers in Taraba state which has 80% of its population as farmers. This is to show the level of improvement in the socio-economic well-being (if any) of the beneficiaries and the level of productivity could help make a case for the role of value chain development in eradicating rural poverty by 2030.

1.5 Scope of the Study

This study focused on the Effect of IFAD/FGN VCDP on smallholder farmers' productivity and access to socio-economic well-being in Taraba State, Nigeria. It was conducted in three of the five Local Governments in Taraba state where the VCDP operates given that these LGAs have robust demography. The respondents in the study are only beneficiaries of the IFAD/FGN intervention. The survey was conducted within three months. Data collection was done from March to May 2018. There was proposal writing and review of literature, structured questionnaires were formulated followed by pre-testing of the questionnaires and training of enumerators. The primary data collection was done using 4 enumerators and 1 interpreter. In-depth interviews and Focused group discussion were also conducted.

1.6 Outline of the Study

The study is divided into six chapters, the first chapter is the introductory chapter which entails the problem statement, objectives of the study, justification of the study, scope of the study and outline. Chapter two contains background to the study; situation/Analysis of the issues surrounding my project, background information of the project and background information on the specific component that my research is based on. Chapter three contains Literature review; introduction review of conceptual issues, review of theoretical issues, review of empirical issues and review of methodological issues. Chapter four contains Methodology; conceptual/Analytical framework, Statement of hypothesis, sampling design. Data requirement and sources, Description of relevant variables, method of Data Analysis. Chapter five contains, results and discussions of findings. While, chapter six which is the last chapter consist of summary of major findings, conclusions and policy recommendation.

Chapter Two

SITUATIONAL ANALYSIS OF VCDP AND LIVELIHOOD IN TARABA STATE

2.1 Introduction

International Fund for Agricultural Development (IFAD) is an organization set up to reduce rural poverty, enhance food security and achieve accelerated economic growth The United Nations body intervene in rural communities by giving grants to smallholder farmers in terms of reduced cost of purchasing inputs and farm machineries. IFAD supports programmes and projects that work with communities, having smallholder farmers as the key players and beneficiaries. The organization also promotes commodity-based interventions that provide technical and financial support along several value chains such as livestock products, rice and other cereals, roots and tubers, vegetables and agroforestry products. IFAD's support to the Nigerian Government's poverty reduction programme in rural areas targets large numbers of smallholder farmers and is essentially people-centred.

Over the past decade, the Nigerian government has initiated several policies to reposition agriculture. One of this is the development of the IFAD Value Chain Development Programme (IFAD VCDP) which is a development initiative of the Federal Government of Nigeria along with IFAD and the private firm Olam. The Programme aims to utilize private investment in the

agricultural sector in order to increase efficiency and alleviate poverty (United Nations Deaprtment of Economic and Social Affairs and United Nations Global Compact 2018).

2.2 Background on VCDP in Taraba State

The IFAD Value Chain Development Programme was launched in 2015. The goal of the 6-year program is to improve cassava and rice value chains for small farmers in the states of Anambra, Benue, Ebonyi, Niger, Ogun and Taraba in Nigeria. In doing this, the programme hopes to reduce rural poverty, increase food security and accelerate economic growth on a sustainable basis (IFAD VCDP 2015). The programme utilizes a market-led approach that relies on private sector participation to leverage investment and knowledge to drive improved productivity in rice and cassava cultivation while continuing to promote commercially oriented smallholder farming practices (United Nations Deaprtment of Economic and Social Affairs and United Nations Global Compact 2018).

Olam, a large multinational agricultural firm, made key productive capacity investments and agreed to purchase rice produced by farmers at the prevailing market prices. Olam is a private partner of the VCDP programme, a leading agri-business that operates in 70 countries, and has a track record of establishing commercial relationships with smallholder farmers. Furthermore, Olam also has long history of investing in Nigerian agriculture and estimates that it has invested over 1 billion USD (United Nations Deaprtment of Economic and Social Affairs and United Nations Global Compact 2018). VCDP takes a holistic and demand-driven approach to addressing constraints along the cassava and rice value chains. It does so through an inclusive strategy, strengthening the capacity of actors along the chain including producers and processors as well as public and private institutions, service providers, policy-makers and regulators. Olam benefitted from the partnership by gaining access to a consistent and high-quality source of rice. Local farmers benefited from the infrastructure investments made by the public sector, multilateral partners, and the private sector. Due to the substantial success of the project, there are currently ongoing talks to expand the scale and scope of the programme to other regions of Nigeria to include additional agricultural products. The partnership agreement between VCDP and Olam provides smallholder rice farmers with access to a reliable and profitable market for their produce, and in turn stimulates productive investments at the farm level. The partnership

involves commitments from Olam, IFAD, the Nigerian government and the farmers (individually and as a collective).

The VCDP strongly emphasizes the development of commodity-specific value chain action plans at the local government level, which serve as the basis for rolling out sustainable activities to reduce poverty and accelerate economic growth. VCDP is aimed at enhancing income and food security of poor rural households. The objective is to sustainably enhance rural incomes and food security. The target groups include 15,000 smallholder farming households, 1,680 processors and 800 traders. It has supported over 5,000 farmers with input and is currently constructing roads and culverts in Karim Lamido ,Gassol and Wukari local government areas.[1]

According to Taraba State VCDP Coordinator, Mr Musa Irimiya, Taraba has the best ecology for rice and cassava production. The potential in rice production in Karim Lamido local government area in dry season alone was overwhelming and the VCDP was considering measures on how to support more farmers in the area. The programme had assisted small holder farmers and processors in the state to improve their standard of living. The programme had so far supported over 5,000 farmers with inputs through its matching grant system – a system in which the programme would provide half of the needed inputs and the farmer provides the other half (IFAD 2018).

Target groups

The Programme aims to contribute to directly improving the livelihoods of approximately 17,480 households (15,000 smallholder households, 1680 processors and 800 traders) and to benefit indirectly approximately 22,000 households (IFAD VCDP 2014).

Primary target groups: The primary target groups are: (i) poor rural households engaged in the cassava and rice value chains (VCs) who cultivate not more than 5 hectares of land under rice/cassava); and (ii) small-scale processors (processing capacity of an average of 2 MT/day for cassava and 4 MT/day for rice) and traders, with emphasis on women and youth.

[1] *This section benefitted immensely from the Programme Implementation Manual (PIM) 2014,IFAD VCDP*

Secondary target groups: The secondary target groups include: (i) downstream stakeholders, particularly processors linked to a large number of the primary target groups; (ii) local government councils (LGAs) and communities strengthened to sustainably manage the marketing infrastructures supported by the Programme; and (iii) private sector operators strengthened to provide quality services demanded by smallholder farmers and processors.

Targeting Strategy and Gender Mainstreaming

The entry point for the Programme will be groups of producers/processors, with attention to women/youth groups. Implementation will start with existing strong or mature groups (in terms of governance, level of production and processing, and market linkages), while providing capacity building for weaker groups. There would be emphasis, where possible, on the consolidation of existing groups rather than the creation of new ones.

Youth strategy: The Programme will target youths in order to create income-generating activities through inclusion in the proposed VCs. The targeting performance will be monitored using participatory poverty monitoring and a tracer study that allows tracking of the target groups, such as youth.

Table 1 presents the youth related activities for each component (IFAD VCDP 2014).

Table 1 Implementation aspects of youth strategy

Component 1: Agricultural Market Development	25% of the matching grant will be earmarked to the youth (both female and male) to promote entrepreneurial activities related to the two VCs supported by the Programme Sensitization and outreach will highlight income-generating activities and promote a positive image to young people
Component 2: Smallholder Productivity Enhancement	Potential young agripreneurs will be trained by the extension service provider or by partner agro-input suppliers on enterprise management, agro-input marketing, book-keeping, delivery of extension services for good agricultural and climate resilient practices, effective application of agro-inputs A number of FBS2 would be piloted specifically for young agripreneurs to ensure that they participate in the training and their unique challenges addressed.

[2] *This section benefitted immensely from the Programme Implementation Manual (PIM) 2014,IFAD VCDP*

	Production and enterprise groups to include 25% youth Training Curriculum/Manual will highlight youth entrepreneurship activities and promote a positive image of the sector to youth, including income-generating opportunities
Component 3: Programme Coordination and Management	Youth forums of young agripreneurs will be organized at least once a year at the state and interstate level to share challenges and identify solutions

Table 2 Implementation aspects of Gender Strategy

Component 1: Agricultural Market Development
Women will be targeted as priority beneficiaries for the enterprise training, at least 40% of participation in the training Gender-specific obstacles and opportunities to be documented during training on leadership, marketing and business skills 35% of matching grants would be earmarked for women and women enterprise groupsto enable them to upgrade their production and processing technologies and capacities, thereby contributing to improve their economic activities and income.
Component 2: Smallholder Productivity Enhancement
Women will comprise at least 40% of farmers trained through the FFS and FBS, and special efforts will be made to ensure gender-sensitive delivery (time, venue etc.) Activities will draw on and enhance women's role as custodians of seed knowledge. Special efforts will be made to ensure women's knowledge is not exploited and that women are not excluded as activities become more lucrative

Reasonable extra expenses (e.g. child care, venue of training) would be covered associated with reaching women on training Women groups will play a key role in the preparation of the Value Chain Action Plans (VCAPs) At least 30% of group leaders in the implementation committees to be women Production and enterprise groups to have 25% women At least 30% groups to be women-only groups by the end of the programme Strengthen the management, leadership and technical capacity of women-only groups in order to empower them to retain control over produce, technology and income A representative of women's farmers will have a seat in the Local Government Value Chain Advisory Committee (LGVCAC) Formation/strengthening of apex organisations of women farmers Gender Action Learning System (GALS) would be promoted to strengthen women groups in the VC.	
Component 3: Programme Coordination and Management	
A gender balance will be observed, including in senior and technical positions All staff TOR will have gender concerns mainstreamed Where possible, women trainers will be recruited to bring women's perspectives to bear Stronger efforts to be made to recruit women staff at all levels.	
Monitoring and Evaluation	Baseline survey, mid-term impact and programme completion survey will have both a quantitative and a qualitative dimension, which has important gender benefits in terms of unpacking causality. Female enumerators will be recruited and the questionnaires will be checked for gender-sensitivity. A separate report on youth and gender with lessons learned in terms of the IFAD

	Policy strategic objectives (economic empowerment, equal voice in decision-making and equitable workloads/ equal profit-sharing) will be prepared annually and form key inputs to KM and advocacy initiatives. Log frame indicators will be disaggregated by sex

3

Summary of Baseline Values for Key Performance Indicators

A summary of baseline survey report from second-tier LGAs in the six programme states commissioned by IFAD published in October, 2016 is presented in the tables below.

Table 3 Summary of Baseline Values for Key Performance Indicators

S/N	Indicator	Baseline Value
I	Volume of surplus production of cassava and sold to markets by smallholder farmers and their farmer organisations.	0
Ii	Volume and value the cassava and rice produced by smallholders processed and sold at an agreed standard by the buyer. (Ratio of Raw: Processed	Rice 2:1
Iii	Volume and value the cassava and rice produced by smallholders processed and sold at an agreed standard by the buyer. (Ratio of Raw: Processed	Cassava1.5:1
Iv	Number of contractual arrangements formalized and upheld between	0

[3] *This section benefitted immensely from the Programme Implementation Manual (PIM) 2014,IFAD VCDP*

[3] *This section benefitted immensely from the Programme Implementation Manual (PIM) 2014,IFAD VCDP*

	targeted producers and processors.	
V	Number of target smallholders that use some market information generated by an Agricultural Market Information System.	225
Vi	Number of MoUs signed between FOs and processors.	0
Vii	Number of processors trained in recommended technologies.	0
Viii	Number of target smallholders that adopt improved processing and storage techniques.	0
Ix	Number of service providers (consultants and firms) for market linkages trained.	0
X	Km of roads constructed/rehabilitated.	1102

[4]

Programme Goal

The goal of the Programme is to reduce rural poverty and achieve accelerated economic growth on a sustainable basis. The Programme will contribute to the following goal indicators:

- 15% reduction in households below the poverty line in target LGAs (baseline by LGAs)
- 25% reduction in number of people under-nourished in target LGAs (children under 5 years, baseline by LGAs)
- 5% increase in real agricultural GDP growth rate in target LGAs (baseline at state level)

Programme development objective

The Programme's objective is that the incomes and food security of poor rural households engaged in production, processing and marketing of rice and cassava in the Programme Area are

[4] *This section benefitted immensely from the Programme Implementation Manual (PIM) 2014,IFAD VCDP*

enhanced on a sustainable basis. The achievement of the PDO at the end of the Programme life will be measured by the following indicators:

- 50% of targeted smallholder farmers and VC operators (by sex and age) have increased their real agricultural income by at least 25% in the programme areas*
- 10% increase in household asset index* by PY6 in programme area
- 25% reduction in the prevalence of child malnutrition in the programme LGAs*
- 25% increase in households food security in target LGAs

Programme outcomes

The following outcomes are expected from the three components:

Component 1: Agricultural Market Development: The expected outcome is improved access to markets of smallholder farmers and capacity to process the selected crops by small/medium-scale agro-processors. The outcome indicator is 50% increase in volume of target commodities marketed by smallholder farmers and processors (IFAD VCDP 2015).

Component 2: Smallholder Productivity Enhancement: The expected outcome is enhanced farmer productivity on a sustainable basis. The outcome indicator is: 40% increase and 150% increase respectively, in yield of non-irrigated and irrigated rice; and 50% increase in yield of cassava produced by smallholder farmers (by sex and age).

Component 3: Programme Management and Coordination: This component will ensure that the Programme is efficiently and effectively managed to achieve results. The outcome indicators are satisfactory disbursement and timely financial and physical progress reports.

Components Implementation Arrangements

This section presents the structure of the Programme components and the implementation arrangements.

Component 1: Agricultural Market Development (USD 54.7 million, 52% base costs)

The component is divided into two subcomponents: (i) Support to Value Addition and Market Linkages, and (ii) Support to Market Infrastructure. This component aims to build strong agribusiness and value chain orientation to farmers and the farming communities.

The outputs from Component 1 will stimulate supply response from activities under Component 2 (Smallholder Productivity Enhancement). The State Programme Management Unit (SPMU) will, in liaison with the National Programme Management Unit (NPMU) Business/Market Development Officer support market development in the following ways:

- Improve on the quality of farm produce by providing technical assistance through direct guidance of programme staff or engagement of a service provider to producers and processors to enhance quality and standard of their produce
- work with NPMU to influence regulatory systems for agricultural commodity quality, grade and standards, among other stated activities in the components matrix
- liaise with NPMU to link up with existing market information platform (like ESOKO) and provide farmers and buyers of farmers produce with market information services, as well as use of service providers to cluster, link and broker business with buyers
- Engage service providers for construction of market infrastructure, rehabilitation and/or re-instatement of community infrastructure or influence government policy to facilitate the establishment of market and related market infrastructure to improve market access by producers and processors.

Programme Funding

The total programme cost is estimated at USD 104.4 million, over a period of 6 years. IFAD's contribution is a loan of USD 74.4 million (71% of total cost), with an additional USD 0.5 million grant. The remainder of the financing is from federal, state and local government

contribution, as well as beneficiary contribution. The financiers are: IFAD loan (USD 74.4 million); IFAD grant (USD 0.5 million), the Federal Government (USD 9.9 million), the State Governments (USD 10.4 million), Local Governments (USD 4.3million), beneficiaries (USD2.1million) and complementary financing totaling USD 2.8 million.

Partner Obligations

Olam provides 15% of inputs to farmers on credit which is repaid with future sales, and is in charge of distributing inputs. Olam commits to purchasing 75% of the rice paddy (leaving the remaining 25% for local consumption) and guarantees payment to farmers upon delivery within 48 hours through direct transfers to farmer bank accounts. Utilizing direct transfers incentivizes the use of the banking system among small-scale farmers. Olam also agreed to construct rice collection depots within a minimum of 25 km of farmers. The Nigerian government acts as a facilitator and coordinator of various interventions funded by the project to facilitate farmers and provide farmer services, and also acts as a supervisor to ensure that funds are utilised for the intended purposes.

The Government also provides support through a 50% grant to farmers on all inputs for the first two years of the programme, and links farmers with the Nigeria Agric Insurance Company to provide insurance to farmers.

IFAD coordinates the commodity alliance forum, a platform for the farmers and Olam to discuss issues related to the partnership including pricing, services and financing. IFAD also provides technical assistance and is responsible for the supervision and implementation of project and infrastructure funding. Farmers agree on a number of product tracking agreements as part of the partnership. Specifically, farmers must meet the quality and quantity standards of the off-taker (Olam). Furthermore, the farmer collective agrees to track the rice paddy movement of their members to prevent side-selling. Lastly, farmers agree to attend the farmer collective meetings and to be part of the pricing committee.

Outcomes and Key Takeaways

The VCDP has shown remarkable growth since its inception. The partnership began in 2015 with only 30 farmers on a pilot basis, and expanded to 1,349 participating farmers in 2016, and 4,976 participating farmers in 2017. Olam has purchased more than 25,200 metric tonnes of rice paddy from smallholder farmers and paid $9.8 million USD in exchange. In total 25,000 people in remote villages benefited from selling their produce to Olam. The partnership also created 3,795 jobs beyond farming, mainly for youth and women in value chain enterprises. Due to the success of the project, there are currently discussions to expand the programme to additional regions of Nigeria and to different crops. This possible expansion highlights the success of the program, but also its scalability.

Shortcomings of IFAD/VCDP in Taraba State Nigeria

One of the major problems faced by most funded agricultural projects including this IFAD project is an underachievement of objective or goal. This can be attributed to diversion of inputs for other purposes, poor implementation strategies, policy and political inconsistency. The project has recorded low achievement on its primary goal and the determining factors for this underachievement are yet to be ascertained. Even with the monitoring and evaluation (M&E) team, the reason for the poor result remains unclear. The need for external evaluation becomes pertinent. Some other problem issues attributed to the IFAD project include;

- Poor standard of living amongst small holder farmer despite the provided support service by IFAD.
- Food insecurity in Taraba state.
- Late supply of farm inputs.

More so, despite the funding of the programme, little is known about the contribution of the IFAD VCDP to small holder farmers' productivity and socio-economic wellbeing from the farmers' perspective and interview of other stakeholders in the value chain

NARRATIVE SUMMARY	VERIFIABLE INDICATORS (*RIMS indicator)	MEANS OF VERIFICATION	ASSUMPTIONS
OVERALL GOAL *Contribute to NAIP goal " Rural poverty reduced, food security increased and accelerated economic growth achieved on a sustainable basis"*	– Percentage reduction in households below the poverty line by 15% in target LGAs – Percentage reduction in no. of people under-nourished by 25% in target LGAs. – Real agricultural GDP growth rate increased by 5% in target LGAs.	– National statistics and NAIP/MDG Progress – Monitoring Reports ReSAKSS.	
PROGRAMME DEVELOPMENT OBJECTIVE *Incomes and food security of poor rural households engaged in production, processing and marketing of rice and cassava in the targeted LGAs of the 6 targeted states enhanced on a sustainable basis*	– 50% of targeted smallholder farmers and VC operators (by sex and age) have increased their real agricultural income by at least 25% in the programme areas*. – Increase in household asset index * of 10% by PY6 in programme area. – 25% reduction in the prevalence of child malnutrition in the programme LGAs*. – 25% increase in households food security in target LGAs *	– Programme impact assessment and surveys. – Periodic evaluation. – National/state statistics. – Poverty surveys.	– Socio economic stability in the county
Component 1: Agricultural Market Development			

Sub-component 1.1: Support to Value Addition and Market Linkages ***Outcome 1.1:*** *Increased value addition and access to markets realized by beneficiary smallholder farmers as well as small and medium-scale processors* *Output 1.1.1: Improved market linkage and increased market information* *Output 1.1.2: Value addition technology promoted*	– At least 50% of the volume of target commodities in programme areas is marketed by smallholder farmers and their organisations*. – At least 50% of the cassava and rice produced by smallholders is processed*. – At least 25 contractual arrangements are formalized and effective between targeted producers and processors in each state*. – 10 trade promotion activities organized – 40% of the target smallholders use the information generated by the Agricultural Market Information System by PY5. – number of contractual arrangement signed between FOs and processors * – 7680 VC operators trained in recommended technologies* – 50% of smallholders adopt improved processing and storage technique*	– Baseline survey and M&E reports. – Published yield and price data. – Agro-industry & market surveys. – Rural household surveys.	– Government policy supports/favours the emergence of strong value chains professional organisations. – Market prices remain above 2006 levels – Access to finance for FOs and VC operators progressively grows.

Sub-component 1.2: Support to Market Infrastructure ***Outcome 1.2:*** *Demand-driven infrastructure investments for improved access to markets realized and sustainably managed by the beneficiary organisations* *Output 1.2.1:* Access to roads and water supply Output 1.2.2: Market, processing and storage facilities improved	– At least 60% of FOs supported have invested in at least one piece of equipment. – Arrangements for the operation and maintenance (O&M) of market. Infrastructure /equipment is developed and operational after 2 years for at least 70 % of programme-financed infrastructure*. – At least 65% and 50% reduction in post-harvest losses for rice and cassava, respectively, are achieved*. – 200 km of roads constructed/rehabilitated by year 5* – 36 new water supply schemes linked to cassava and rice VC constructed. – 8000 farmers in programme communities have adequate access to safe and sustainable drinking water.* – 80 processing units with stores constructed* – 400 FOs' commodity stores constructed*	– Programme M&E/ progress reports. – Supervision mission, mid-term review and completion reports. – Contractor reports. – Beneficiary perception surveys.	– LGCs and State Government provide adequate funds and mechanisms for infrastructure repair and maintenance – Effective FO management arrangements for infrastructure are sustained
Component 2: Smallholder Productivity Enhancement			
Sub-component 2.1: Support to Farmers' Organizations ***Outcome 2.1:*** *Farmers ' organizations (FOs) in programme areas effectively serve their members* *Output 2.1.1: Capacity of FOs strengthened*	– at least 40 % of FOs strengthened by programme (target 300) have access to market information for their members*. – At least 50% of FOs strengthened by programme (target 300) use bulk purchase method to procure their input. – At least 40 % of supported FOs have reached the next stage of autonomy by PY 5. – At least 80% of the target FOs legally registered with the Department of Cooperatives. – 2,400 group leaders trained in good governance issues*	– Programme M&E/ progress reports. – FO financial records – State MoA/Commerce and Cooperatives reports. – Service providers/operators reports	– FOs are recognized as legitimate interlocutors by the various stakeholders – Avoidance of political interference in FOs

Sub-component 2.2: Support to Smallholder Production ***Outcome 2.2:*** *Production and productivity of smallholder rice and cassava farmers in the programme areas increased* *Output 2.2.1: Access to fertilizers and agro-chemicals facilitated* *Output 2.2.2 Access to improved production techniques facilitated*	– % increase in yields for rice (target 40% for non-irrigated and 150% for irrigated) and cassava (target 50 %) produced by the target smallholder farmers (by sex and age)*. – 50% increase in rice and cassava produced by the target smallholder farmers (by sex and age)*. – At least 70% of smallholder farmers have adopted at least one technology promoted by the Programme (y sex and age)*. – 10 agreements signed with agro-input dealers – 30% of target households satisfy their annual input needs – 4800 smallholder farmers trained in spraying techniques – 50% of target smallholders have access to extension services – 480 Farmer Filed Schools established – 30,000 hectares of land protected from seasonal flooding	– Programme M&E/ progress reports. – National agriculture production surveys. – State Ministry of Agriculture reports. – NIRSAL reports.	– Favourable climatic conditions.

Programme Logical Framework
Source: Programme Implementation Manual 2014, IFAD/VCDP

2.2 Value chain analysis and Livelihood in Taraba State

Taraba state is one of the six states that are presently benefitting from the IFAD/VCDP intervention. The six states are Ananbra, Benue, Ebonyi, Niger, Ogun and Taraba. The selection criteria for the states are the existence of processors for value addition, presence of producer/ processors clusters, accessibility of communities and demonstrated commitment of the LGAs to participate in the programme .There would be addition of more LGA and the leading LGAs would be included in the programme (IFAD VCDP 2014).

Objectives of the programme is to reduce rural poverty and achhieve accelerated economic growth on a sustainable basis(PIM 2014).While the programme development objective is to improve and increase the food security of poor rural households engaged in production, processing and marketing of rice and cassava in the programme area (IFAD VCDP 2014).

Livelihood in Taraba State

The major occupation of the people of Taraba State is agriculture. Cash crops produced in the state include coffee, tea, groundnut and cotton.

Education

The state is fairly blessed in terms of literacy level and it is experiencing an increase in the number of private schools. The state presently has 62 secondary schools, 3 teachers college, 9 vocational training centres, a state polytechnic, a college of education, college of Agriculture and school of nursing

2.2 .1 Facts on nature and trends of Agricultural productivity

Taraba state is predominantly engaged in family farming(FAO 2014).The system of farming in Taraba is that of communal one,where by everymember of the family is involved in farming activities.

A. FO MEMBERSHIP SEGREGATED BY GENDER AND YOUTH AS AT 30th APRIL 2018.

SN	STATE: Taraba	Commodity		NO OF FOs		Adult males		Youth males		Adult females		Youth females		Total males		Total females		Total membership	
		C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R
1	Ardo Kola	26	98	26	98	193	434	109	504	84	313	34	208	302	938	118	521	420	1460
2	Gassol	21	93	21	93	102	522	98	542	85	284	43	135	200	1064	128	419	328	1483
3	KarimLamido	24	187	24	187	130	787	107	713	61	678	51	241	237	1500	112	919	349	2419
4	Takum	53	64	53	64	274	240	163	257	140	208	87	135	437	497	227	343	664	840
5	Wukari	26	106	26	106	197	493	111	363	127	419	57	245	308	856	184	664	492	1520
	Total	150	548	150	548	896	2476	588	2379	497	1902	272	964	1484	4855	769	2866	2253	7721

B. STATUS OF SAVINGS AND LINKAGE TO FINANCIAL INSTITUTION AS AT 30th APRIL 2018.

	State: Taraba	Cassava groups with savings	Total savings of cassava groups(N)	Rice groups with savings	Total savings of rice groups (N)	Total savings	No of FO members linked to Financial institutions (M=Males, F=Females)		No FO members accessed credit	
	LGA									
							Cassava	**Rice**	**Cassava**	**Rice**
1	Ardo Kola	24	5,810,000	72	15,040,000	20,850,000	M=302 F=118	M=938 F=521	0	0
2	Gassol	20	2,600,500	94	13,893,000	16,493,500	M=200 F=128	M=1064 F=419	0	25 (Internal)
3	Karim Lamido	21	3,820,000	175	22,450,000	26,270,000	M=237 F=112	M=1500 F=919	120 (Internal)	612 (Internal)
4	Takum	47	5,090,000	45	5,350,000	10,440,000	M=437 F=227	M=497 F=343	0	0
5	Wukari	20	8,950,000	95	23,250,000	32,200,000	M=308 F=184	M=856 F=664	67 (Internal)	283 (Internal)
	TOTAL	126	26,270,500	446	79,983,000	106,253,500	M=1484 F=769	M=4855 F=2866	187 (Internal)	920 (Internal)

D No OF INDIVIDUAL FO MEMBERS RECEIVED SUPPORT BY ENTERPRISE AND GENDER AS AT 30th APRIL 2018.

SN	STATE: Taraba	No of FOs		Membership		No received support in production		No received support in processing		No received support in marketing		No not yet supported		Remarks
		C	R	M	F	M	F	M	F	M	F	M	F	
1	Ardo Kola	26	98	1227	653	896	402	43	44	0	0	288	207	
2	Gassol	21	93	1246	565	953	307	19	55	13	20	261	183	
3	KarimLamido	24	187	1737	1031	589	204	0	0	0	0	1148	827	
4	Takum	53	64	931	573	435	260	50	70	32	33	414	210	
5	Wukari	26	106	1140	873	765	420	82	113	0	0	293	340	
	TOTAL	**150**	**548**	**6281**	**3693**	**3638**	**1593**	**194**	**282**	**45**	**53**	**2404**	**1767**	

E. YOUTH RECEIVED SUPPORT BY ENTERPRISE AND GENDER AS AT 30th APRIL 2018.

SN	STATE: Taraba	No of Youth only FOs		Membership				No received support in production				No received support in processing				No received support in marketing				No of youth not yet supported				Remarks
		C	R	M		F		M		F		M		F		M		F		M		F		
				C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	C	R	
1	Ardo Kola	10	40	109	504	34	198	77	306	27	60	20	66	0	34	0	0	0	0	12	132	7	104	
2	Gassol	6	37	108	532	43	135	90	286	43	129	0	0	0	0	0	0	0	0	18	246	0	6	
3	KarimLamido	5	70	107	713	51	241	10	100	6	30	0	0	0	0	0	0	0	0	97	613	45	211	
4	Takum	20	18	163	257	87	135	75	75	49	70	30	47	5	7	19	17	13	0	39	118	20	58	
5	Wukari	9	25	111	363	57	245	84	275	22	81	0	53	0	42	0	0	0	0	27	35	35	122	
	TOTAL	50	190	598	2369	272	954	336	1042	147	370	50	166	5	83	19	17	13	0	193	1144	107	501	

F .NO OF JOBS CREATED FOR WOMEN

SN	STATE: Taraba	No of jobs created under																Job category								Total
		Production				Processing				Marketing				Waste to wealth				Permanent				Temporary				
		C		R		C		R		C		R		C		R		C		R		C		R		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1	Ardo Kola	0	42	0	86	0	10	0	16	0	0	0	0	0	0	0	0	0	42	0	92	0	10	0	10	154
2	Gassol	0	40	0	95	0	10	0	23	0	0	0	20	0	0	0	0	0	50	0	108	0	10	0	20	188
3	KarimLamido	0	37	0	97	0	5	0	55	0	0	0	18	0	0	0	0	0	37	0	170	0	5	0		212
4	Takum	0	74	0	82	0	45	0	8	0	0	0	12	0	0	0	0	0	94	0	92	0	25	0	10	221
5	Wukari	0	40	0	114	0	12	0	74	0	0	0		0	0	0	0	0	52	0	174	0	0	0	16	242
	TOTAL	**0**	**233**	**0**	**474**	**0**	**82**	**0**	**176**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**275**	**0**	**636**	**0**	**50**	**0**	**56**	**1017**

SN	State: Taraba	No of jobs created under															
	LGA	Production				Processing				Marketing				Waste to wealth			
		C		R		C		R		C		R		C		R	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	Ardo Kola	53	24	374	69	0	15	9	45	0	0	0	0	0	0	0	0
2	Gassol	70	15	364	85	3	5	15	32	0	0	0	0	0	0	0	0
3	Karim Lamido	23	27	490	151	0	10	15	82	0	0	0	0	0	0	0	0
4	Takum	80	80	127	85	0	20	5	19	0	0	0	0	0	0	0	0
5	Wukari	65	32	370	90	10	15	39	58	0	0	0	0	0	0	0	0
	TOTAL	**291**	**168**	**1725**	**480**	**13**	**65**	**93**	**236**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

G. NO OF JOBS CREATED FOR YOUTHS

Job category								**Total**
Permanent				**Temporary**				
C		**R**		**C**		**R**		
M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	
53	24	383	79	0	15	0	35	589
70	20	379	95	3	0	0	22	589
23	27	505	171	0	10	0	62	798
80	80	132	105	0	0	0	19	416
75	47	390	110	0	0	19	38	679
301	198	1789	560	3	25	19	176	3071

H. WOMEN AND YOUTH GROUPS

SN	ITEM		Ardo Kola	Gassol	KarimLamido	Takum	Wukari	Total
1	Women only groups		12	16	20	21	27	96
2	Youth only groups		50	43	75	38	34	240
3	Youth segregated by gender	M	613	640	820	420	474	2967
		F	242	178	292	222	302	1236
4	Number of women in LG Value chain steering committees		24	22	61	34	6	147
5	Number of women in leadership positions of FOs		220	203	543	248	493	1707

Income

Majority of them derive their income from Agricultural activities. Foreign debt profile of Taraba ranked lowest in Nigeria. Taraba state has the lowest debt among the entire states in Nigeria with only 22.1 million dollars.

Health

The State Government is also playing a vanguard role in rolling back Malaria and the HIV/AIDS scourge in the State through well planned and executed programmes. In the media tour of all States of the Federation, Taraba State was adjudged one of the best States in Nigeria in terms of provision of health facilities.

Tourism

Taraba State is richly endowed with potentials for the development of tourism, and mineral resources and that include the recently discovering of uranium in huge quantities in the state. In recognition of this, the government has made concerted efforts to improve areas of tourist attractions like Mambilla Tourist Center, Gumpti Park and game reserve in Gashaka, the Nwunyu Fishing festival in Ibi which usually holds in April of each year where activities such as canoe.

Also effort is made to attract foreign investors to go and invest in the natural resources that abound in the state. Other festivals are Purma of the Chamba in Donga, Takum and Bali, the Puje of Jukuns, Kuchecheb of Kutebs in Takum and Ussa, Kati of the Mambilla and host of others. Taraba is called "Nature's gift to the nation" as the state is rich and have many ethnic groups, including Chamba, Mumuyes, Mambila, Wurkums, Fulanis, Jukun, Jenjo Kuteb, Ichen,Tiv and Ndoro.

Economy

The major occupation of the people of Taraba State is agriculture. Cash crops produced in the state include coffee, tea, groundnuts and cotton. Crops such as maize, rice, sorghum, millet, cassava, and yam are also produced in commercial quantity. In addition, cattle, sheep and goats are reared in large numbers, especially on the Manbilla Plateau, and along the Benue and Taraba valleys. Similarly, the people undertake other livestock production activities like poultry

production, rabbit breeding and pig farming in fairly large scale. Taraba State is among the leading states in the production of livestock with its dairy farms at Jalingo, Gembu and Nguorje.

Communities living on the banks of River Benue, River Taraba, River Donga and Ibi engage in fishing all year round. Other occupational activities such as pottery, cloth-weaving, dyeing, mat-making, carving, embroidery and blacksmithing are also carried out in various parts of the State.[5]

Source :

https://www.nigeriagalleria.com/Nigeria/States_Nigeria/Taraba/Taraba_State.html

Chapter Three

LITERATURE REVIEW

3.1 Review of Conceptual Issues

Value Chain Development Programme

This programme takes a holistic and demand-driven approach to addressing constraints along the cassava and rice value chains. It does so through an inclusive strategy, strengthening the capacity of actors along the chain including producers, processors and marketers as well as public and private institutions, service providers, policy-makers and regulators. At the same time, the programme strongly emphasizes the development of commodity-specific value chain action plans at the local government level, which serve as the basis for rolling out sustainable activities to reduce poverty and accelerate economic growth. The objective is to sustainably enhance rural incomes and food security.

Value Chain

Value chain is the process of adding value to a product. A value chain is the full range of activities — including design, production, marketing and distribution – to bring a product or service from conception to delivery, (Kaplinsky and Morris (2003) cited in; Haggblade and Theriault 2012). The value chain starts with the raw materials used to make the products, and consists of everything that is added to it before it is sold to consumers. The value chain can be thought of as a set of activities, services, and products that lead to a product or service that reaches the final consumer. Value chain analysis requires the assessment of the types and location of all the actors in the chain, the linkage between them and the dynamics of inclusion and exclusion (Bolwig et al., 2008 cited in; European Commission 2011). Webber and Labaste (2010) define value chain development as an 'effort to strengthen mutually beneficial linkages among firms so that they work together to take advantage of market opportunities, that is, to create and build trust among value chain participants'(cited in; Jibril et al., 2014).

The value chain concept can help answer questions regarding:

a. How the products produced reach the final consumer.

b. The structure (economic relationships) between players in the chain.

c. How this structure is likely to change over time.

d. The key threats to the entire value chain.

e. The key determinants of share of the profits created by the chain

Each agricultural produce has its own value chain. Cassava and rice are about the commonest staple food consumed in Nigeria. The value chain for the two crops is detailed below;

Cassava Value Chain: Cassava has played and continues to play a remarkable role on the agricultural stage of Nigeria. Since its debut in the late 1600s on Portuguese trade ships from Brazil into Nigeria, it has gone from minor crop to major crop that accounts for between 40-50% of all calories consumed in Southern and Central Nigeria(Ahmadu and Idis 2014).

Nigeria is the world's largest producer of cassava. Its current production would be in the range of 70,000- 120,000 (out of the more than 1 million producers) and over 400-500 cooperatives and cottage industries, 800,000-950,000 traders, 46 small medium processing industries and 1large processing industry in the region. Women are almost entirely responsible for processing and marketing of cassava products in most part of the country. In most cases, women buy agricultural produce from their husbands and other farmers, processed and market. Small-scale cassava processing is the domain of women, although most of the mechanized equipment (graters and grinders) are owned and operated by men (Salami, Kamara, and Brixiova 2010b).

The value chain is made up of the producers; the processors and the consumers. Currently, the small scale farmers constitute the bulk of the producers of cassava in Nigeria. This is taken off them by the processors who process fresh cassava into products like gari and fufu which are sold to local consumers (being a major staple food in Nigeria). We also have some commercial scale activities in the area of processing of cassava into animal feed for feeding ruminants, poultry and fishes (aquaculture). The processing of cassava into flour, starch and glucose for use in the industrial sector (such as food industry, the brewing industry, the pharmaceutical industry and the textile industry) is beginning to gain grounds. Potentially, new opportunities to explore in the

cassava value chain include; on-,./farm/rural processing of cassava to into chips and ethanol production for both export and local markets.

Rice Value Chain: Rice consumption in Nigeria has been increasing over time and much of the increase is supplied by imports. Between 2012 and 2015, the country imported 2.41 billion USD worth of rice in order to meet expanding consumption. Despite increasing imports, Nigeria has the capacity to be a net exporter of rice. However, rice is not a traditional crop in most of the country and so production often fails to even meet domestic demand which is expanding rapidly (see Figure 2).

The Nigerian Government has sought ways to improve productive capacity in rice production in order to become a net exporter in the future. The rice value chain starts with paddy production which could go to cottage millers or Commercial mills for processing and straight to the domestic rice market for sale to consumers. There could also be sub-chains such as the farm gate buyers who supply the local paddy market, where the commercial mills can also buy to process.

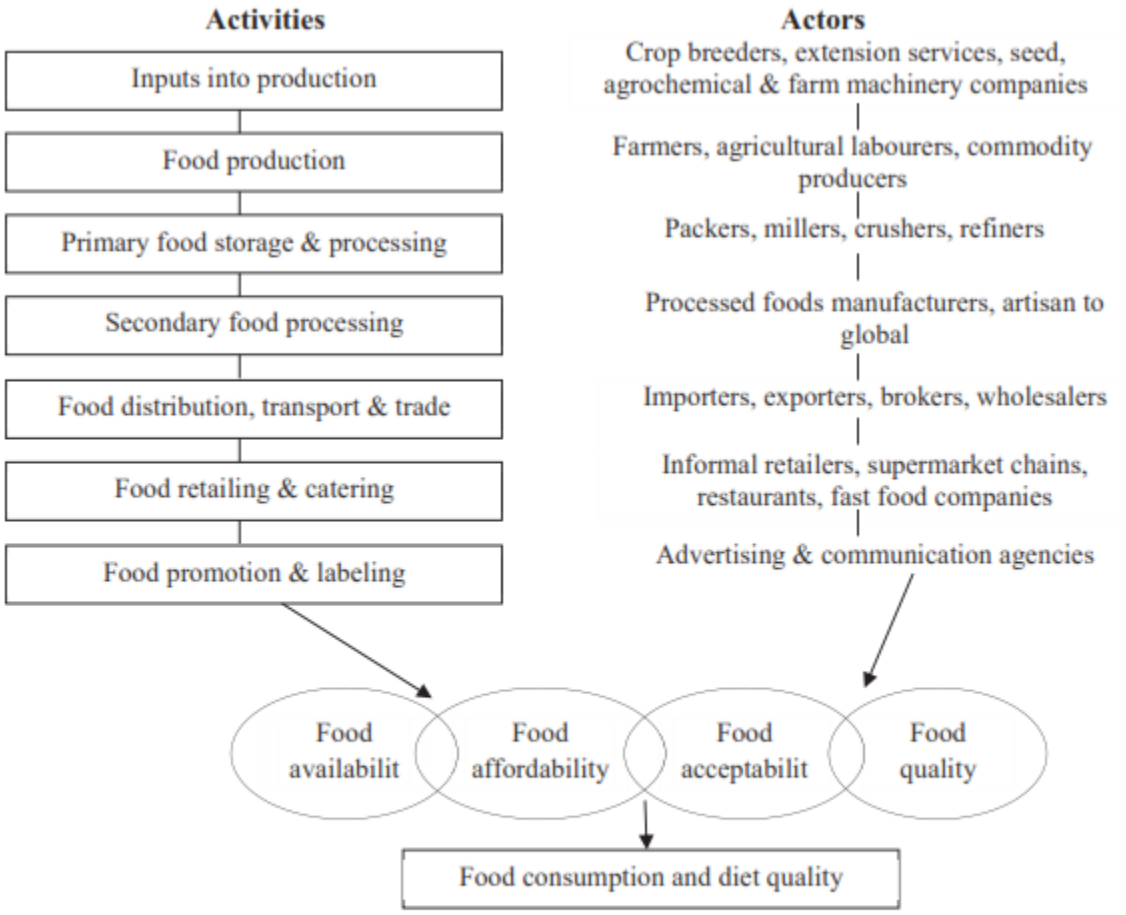


Figure 1: A simplified representation of a food supply chain

Source: Hawkes and Ruel (2011). Value Chains for Nutrition. A paper presented at 2020 conference paper 4: Leveraging Agriculture for Improving Nutrition and Health February 10-12; New Delhi, India.

Figure 1 A simplified representation of a food value chain (Source: Hawkers and Ruel, 2011)

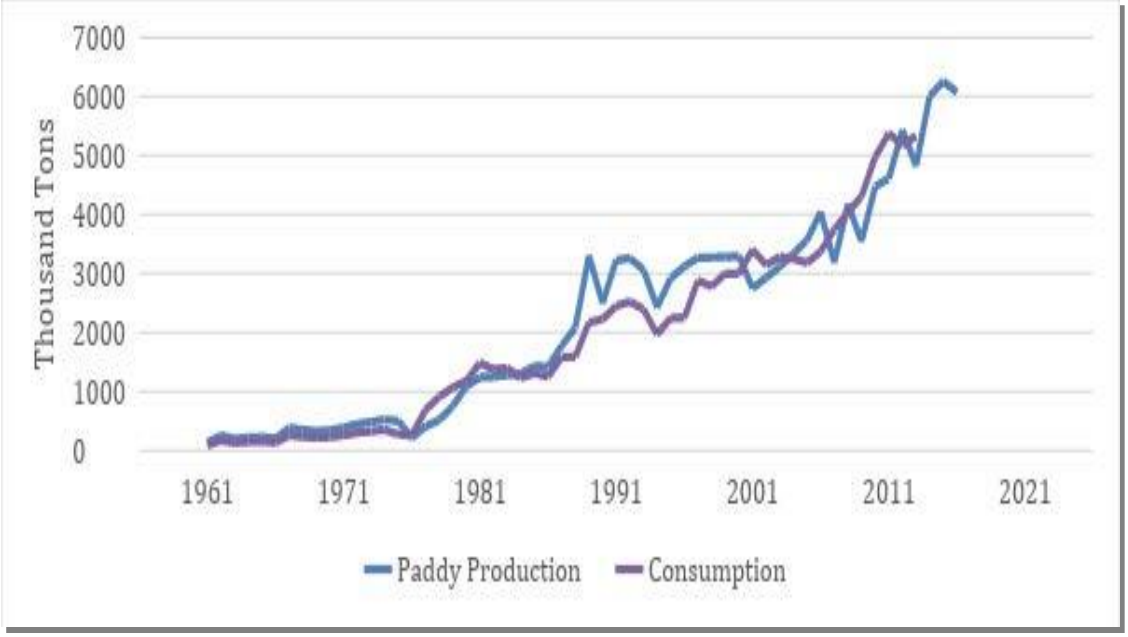


Figure 2 Figure 2: Rice Production and Consumption in Nigeria (1961-2015) Source: CGIAR Research Program on Rice

Smallholder farmers

Smallholder farmers can be defined as those farmers that operate on a small scale, they basically grow subsistence crops and one or two cash crops with the help of the members of the family. That is, they make use of their family for labour. They are usually located in rural areas and are also characterised by the use of outdated farming tools. Smallholder farmers basically produce what is needed for their families and sell the excess (Musuva and Lewa 2016). Smallholder farmers range from those farming for their family consumption to those earning as much as 50,000 USD per year (Mengistu 2014).

Some challenges faced by smallholder farmers are, climate variability, lack of land tenure security for land and water, limited access to training, research and limited access to markets IFAD(2014).They are also faced with high transaction cost that affects their incentives for market participation (Forsythe, Posthumus, and Martin 2016).

Rural livelihood strategies

Rural livelihood can be defined as a means of gaining a living (Chambers 1995 cited in Mengistu 2014) This can be defined as an activity in which a household engages to make a living which

could be in the agriculture or non-agriculture sector. According to DFID's sustainable livelihoods glossary, the term livelihood strategies denotes the range and combination of activities and choices that people make in order to achieve their livelihood goals. Livelihood strategies include; how people combine their income generating activities, how they use their assets, which assets they choose to invest in, and how they manage to preserve existing assets and income (Scoones 2009).

Agricultural Productivity

Productivity describes various measures of the efficiency of production. A productivity measure is expressed as the ratio of output to inputs used in a production process, i.e. output per unit of input. Productivity is an important factor in production performance of firms and nations. Productivity growth helps businesses to be more profitable. Productivity is someone's ability to produce more economically and efficiently (Girabi and Mwakaje 2013).

Socio-economic wellbeing

Socio-economic wellbeing takes into cognizance the economic status and quality of life of people in addition to the industrial structures that produce forest and rangeland products. Socio-economic wellbeing is based on certain indicators and they are namely;

- Income and wellbeing
- Regional job and wage growth trends
- Commodity and non-commodity production and use trends
- Status of recreation industries, and so on.

3.2 Review of theory

The study is based on the Random Utility Model (RUM), which is founded on the assumption that an individual will make a choice that yields the highest utility (Greene 2002). We can assume that a farmer '*a'* chooses from a set of mutually exclusive marketing outlets for his/her rice or cassava, j=1, 2 ……n. The farmer obtains a certain level of utility (*Uij)* from each alternative outlet chosen. The principle underlying the farmer's choice is that he/she chooses the outcome that maximizes the utility. The farmer will therefore make profit based on the utility

achieved by selling rice or cassava to a certain marketing outlet. We do not observe the farmer's utility, but instead observe some attributes of the alternatives from the decision he/she made. A farmer with specific attributes therefore associates an average utility level with each alternative market outlet choice. The farmer's attributes may be socio-economic, physical, technical plus institutional factors. Hence, the utility is decomposed into two distinct parts; deterministic *(Vij)* and random (*Eij)* components*:*

$Uij = Vij + Eij$…….. (1)

Since Eij is not observed, the farmer's choice of a marketing outlet cannot be predicted exactly. Instead, the probability of choosing any particular outlet is derived. We cannot observe directly the utilities but the choice made by the farmer reveals which one provides the greatest utility (Greene, 2000). A farmer will therefore select a market outlet j = 1 if;

Uik > Uij…….. (2).

Where Uik denotes a random utility associated with the market outlet $j = k$

The value chain is both a concept and a tool which has been in use for a long period of time to understand and analyse industries (Jonas, Olivier, and Genereuse 2017). Value chain can be defined as a full range of activities which are required to bring a product from conception to the final consumer (Haggblade and Theriault 2012). The production process is considered as a set of parameters as defined by Humphrey and Schnitz (European Commission 2011) and it answers the following questions: What to produce? How to produce? When to produce? How much to produce? What is the price? All stakeholders should work harmoniously and share information that could benefit all. Producers and consumers should be linked together because this is more sustainable than when they are not linked together.

In analysing value chain all aspects of the chain must be considered as been important, be it the processors, the producers, marketers and the final consumers (Jonas, Olivier, and Genereuse 2017)

3.3 Review of Empirical Issues

Different Structures of Agri-Food Value Chain and Impacts on Smallholders' Welfare

There is growing concern and discussion on the impact of recent solicitation for food standards on smallholder farmers in developing countries. The argument is that this call for safety and quality standards could impact smallholders negatively and defeat the efforts to reduce poverty of smallholders by involving them in agricultural exports. In a value chain, there are different structures determined by the lead firm and the market concentration in that value chain. The kind of structure determines the incentives for those who stay or not in the chain and the level of standards that would be adapted. As the requirement for more enhanced standards become increased, smallholders are threatened as they struggle to comply.

The transformations that have happened to the agrifood systems owing to, among other things, globalization of trade, increase in the power of small scale sellers through consolidation of products and product quality-based competition have influenced the roles of smallholder farmers in the system (Haggblade and Theriault 2012). Due to globalization, there is ease of transporting agrifood products across borders. This has meant that some agrifood firms source from smallholders in developing countries at high volumes, in low prices and in diversification, and having the edge to decide what the standards or regulations are in the agrifood sector.

Lee et al. (2012) shows through a framework that links global value chain with agrifood standards how standards imposed in a value chain shape smallholders' welfare (Lee at al., cited in; Haggblade and Theriault 2012). As the agriculture food chain becomes long and complicated, players seek ways to reduce the risks and costs involved thereby, in addition to public set standards, designing similarly stringent conditions. Sometimes private and public standards co-exist. When the agrifood value chain system becomes overwhelming to smallholders through different public and private set standards, smallholders have the options of upgrading, downgrading or exiting the system if they cannot afford the financial, informational, and network resources required to stay in.

Lee et al. (ibid) identified four scenarios depending on the concentration of food production and food retail. The first identified scenario is the buyer-driven chain which occurs when retailers become highly concentrated particularly in developed economies. The second scenario is the producer-driven chain where there is high requirement for quality food than for safety. There's

specification on quality requirements for inputs like seeds and fertilisers by the lead firms in the chain. Smallholders' incomes may be limited due to large presence of processors. The third structure identified is the bilateral oligopolies. Entry into this kind of structure is most difficult. Intermediaries like exporters and traders have little roles as there is tight control held by consolidated producers. It is also characterized by very comprehensive private standards in addition to existing public ones. The last structure is the traditional markets which involves numerous producers and retailers who are small in size who trade in price and quantity rather than on brand names. Public standards are only held to minimum requirements. This structure accounts for majority of the agricultural food value chains in developing countries.

Measuring the Impacts of Value Chain Development Programmes

Different actors and stakeholders who invest in value chains do so with different objectives. Some, like non-governmental organisations have their focus mostly on reducing poverty while other players like private companies may be interested in improving the social and environmental consciousness of the producers. Sometimes even when the activities of different stakeholders are unconnected and they all have different interests in the value chain, they may share the same end goal of ending poverty.

According to Stoian et al. (2012), even though value chain development is tied to many developmental agenda, little is known about its impact on rural poverty (Stoian et al. 2012). By strengthening relationships among players in a value chain through the provision of external technical, business and financial support and the sharing of information, benefits and risks, the value chain tends to survive much longer. Too often it is concluded that value chain development has poverty reduction potential based on the assumptions that the poor rural households have enough resources to participate in the value chain, do not have issues with on what/how to put resources to use and can make high risks when reinvesting their capital and labour. In reality however, these assumptions are not always the case with the smallholders. The farmers, for example, combine on-farm and off-farm activities whereas value chain development requires dedication of resources (such as labour, capital, etc.) to a particular chain. Tanburn and Sen (2011) stress that developmental agencies have failed many times to measure and report the significant performance of their poverty-reduction-focused projects (Tanburn and Sen 2011).

Stoian et al. (2012) identified some four issues in the value chain development space that are not currently part of the concerns and discussions in the space despite their importance (Stoian et al. 2012). First they said that the approach of the conceptual models that accompany most value chain development consider only few simple variables (like output, employment, income, production practices, infrastructure etc.) and leave out important but complex others (like social and human capital building, vulnerability). By doing this, such conceptual approach makes it easy to communicate an increase in income of participating smallholders to stakeholders and reduces costs of monitoring, evaluation and implementation. However, it does not consider the full asset requirement for smallholder participation in the value chain nor how to deal with trade-offs leading to smallholders choosing how and where to spend their resources between on-farm and Soff-farm livelihood activities. Secondly, they noted that despite the differences in smallholders' asset levels, income flows, social networks, and resilience to shocks, value chain initiatives treat smallholders as belonging to the same level. Because of the differences in the capabilities of households, they tend to have different levels of readiness to participate in the value chain. Stoian et al. (ibid) therefore alluded to a minimum asset threshold to be created interventions which allows every household to participate in the value chain. To support this need for a minimum asset threshold, they highlighted the case of a Nicaragua-based coffee cooperative, Soppexcca, which suffered during the coffee crisis of early 2000s. Despite that the cooperative expanded its infrastructure and processing facilities, and some members benefitted increased service provision and income flows, one third of the members could not intensify their production, access necessary inputs or diversify their production due to issues like small landholdings, unfavourable land tenure, and high dependence on off-farm activities. Thirdly, they claim that there is currently lack of a clear impact models with plausible cause–effect relationships, or refined metrics to measure both positive and negative effects of value chain development. Lastly, they proposed an integration of all the services required in the chain since sometimes their scattered nature affect effectiveness and efficiency in their delivery.

By working on these four issues it is believed that measuring the impacts of value chain development initiatives will be much effective and efficient.

3.4 Review of Methodological Issues

In past studies purposive sampling was used, but in this research a multi-stage sampling technique was used because of its advantage of greatly reducing the variation of the estimate while collecting less data (Otekhile and Verter 2017).

In the work of Otekhile and Verter 2017. Their study was carried out in two local government areas of Lagos State, Badagry and Ojo. Primary data were collected through a questionnaire for the period of September to October in 2015. Farmers were randomly selected from Badagry and Ojo Local Government Areas of Lagos State. A total of 75 household farmers were selected and interviewed in three different rural communities. Data gathered was analysed using descriptive statistics, frequency and percentage, and OLS regression approaches.

In another work, time series data covering the period 1985 – 2015 wan adopted, descriptive statistics was also adopted to capture the stated objectives of the study.

Onogwu *et al.* (2017) examined the factors influencing Agricultural Productivity of smallholder Farmers in Taraba State, Nigeria. Data were collected from 150 smallholder farmers in the study area using structured questionnaire and interview to get responses used in the analysis. Descriptive statistics was used to analyse the socio-economic variables. While, the binary Logistic analysis was used in determining the factors influencing farmers' productivity.

Yuguda *et al.* (2013) assessed the socio-economic factors and constraints influencing productivity among cassava Farmers in Taraba State, Nigeria (Yuguda et al. 2013). The data used was gotten from primary sources. Questionnaires and Interview were conducted among the cassava farmers. A purposive and simple random sampling technique was used in the selection of respondents using multi stage sampling techniques. The data collected covered the farmer's socio-economic characteristics as well as the inputs and outputs used in the production process. For the analytical technique, descriptive statistics were used in the analysis of data that was obtained from the respondents. The descriptive statistics used include: mean frequency distributions and percentages.

Ojiako et al. (2017) worked on the Determinants of Productivity of Smallholder Farmers Supplying Cassava to Starch Processors in Nigeria (Ojiako et al. 2017). The study was conducted in Eight Cassava growing State that were participant in the Cassava Starch Value Chain project implemented on behalf of Nestle Foods by the International Institute of Tropical Agriculture

(IITA) from 2011-2015.The sample consist of Farmers selected from the farmers clusters using a multistage simple random sampling. A cluster was made up of about 10-20 members, three clusters were randomly selected from each state, four members were randomly selected and interviewed from each cluster. In all 96 farmers were interviewed using a structured questionnaire. Data were collected on farmer's characteristics, fertilizer use status, harvesting method, season and yield. The analytical technique used was descriptive and inferential combined with multivariate regression technique.

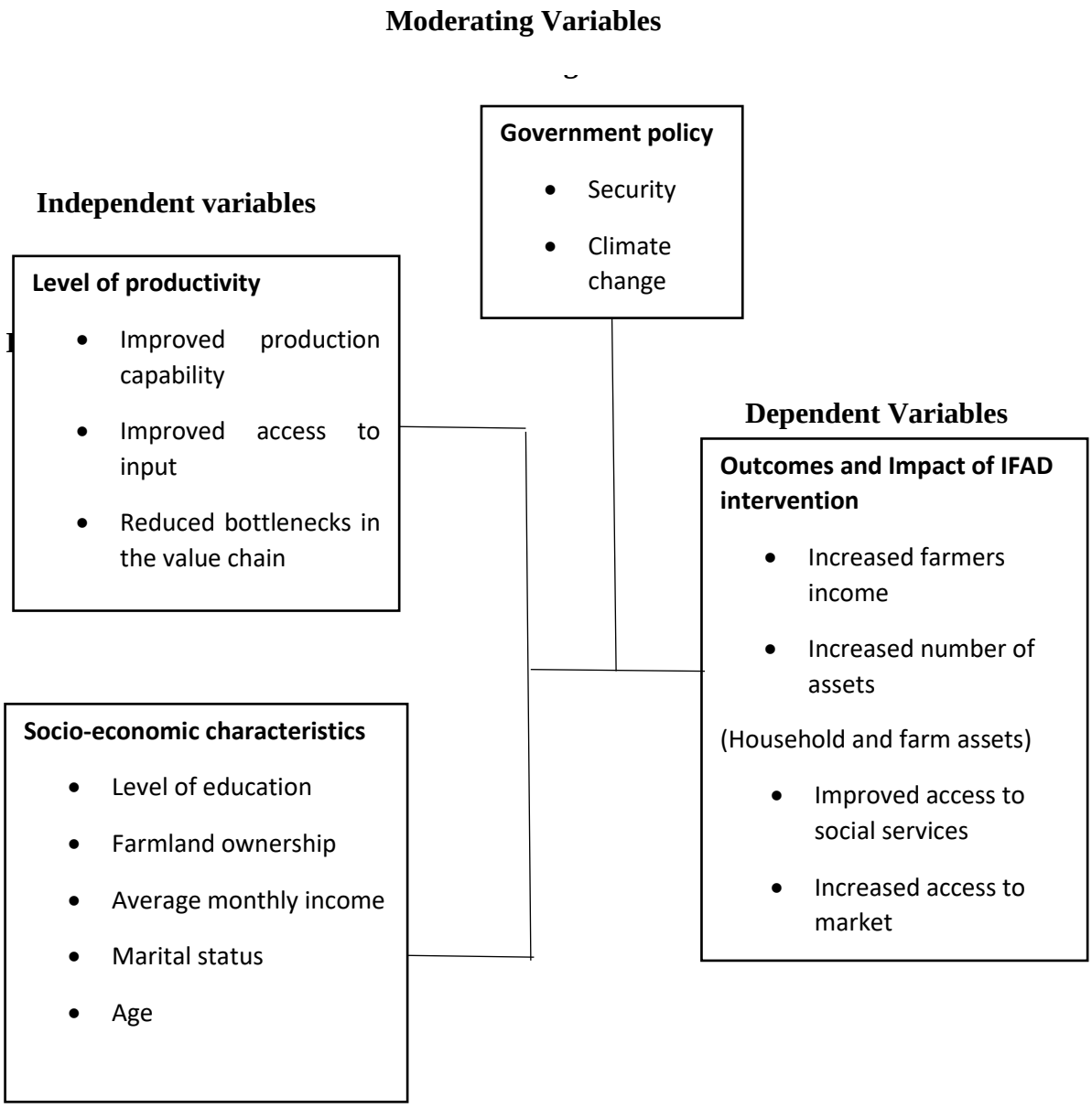
Boniphace et al. (2015) in their analysis of smallholder farmers socio-economic determinants for inputs use : A case of major rice producing region in Tanzania (Boniphace, Fengying, and Chen 2015). A sample of 842 households from high rice producing regions was extracted from data compiled by FAO based on the Tanzania National Panel Survey (NPS) for 2010 – 2015 and variables relating to household were also computed.

Analytical technique used, the study made use of descriptive statistics such as graphs, tables, mean and standard deviation. Econometric model procedure was also used. This applied a probit model analysis to determine factors that influence input use. The study adopted a methodology similar to that used by Yuan *et al.*,(2010) and Irene(2007) (cited in; Boniphace, Fengying, and Chen 2015).

Chapter Four

METHODOLOGY

4.1 Conceptual Framework



Conceptual Framework of the study as conceived by the researcher: overview of smallholder farmers in Taraba state, Nigeria.

Source: Field Survey (2018)

4.2 Research Hypothesis

H_o – There is no difference in the level of productivity among smallholder farmers after IFAD/VCDP intervention.

H_i –There is significant difference in the level of productivity among smallholder farmers after IFAD/VCDP intervention.

H_o – There is no difference in income level of farmers after the intervention

H_i – There is significant difference in income level of farmers after the intervention

4.3 Sampling Design

Multi-stage sampling technique was used. Three LGAs were randomly selected from the 5 LGAs participating in the VCDP/IFAD, after which 133 respondents were selected from Ardokola, 96 respondents from Gassol and 135 respondents from Wukari Local government areas. A total of 364 respondents were used for the study. This study used both quantitative and qualitative methods. The quantitative method is multi-staged cross-sectional. While, the qualitative methods used were key informant interview and focus group discussions.

4.4 Data Requirement and sources

Both structured and semi structured questionnaire were used to obtain information from the respondents. Camera and recorder were used to take photographs and record vital information.

Data was collected through primary and secondary sources. Primary data was collected by means of survey questionnaire and interview method. Information gathered included the socio-economic characteristics of the project beneficiaries, production report which included input and output values; financial records from beneficiaries which include income from farm activities, financial support from the programme and financial records from IFAD state representative/office. The data was analysed using IBM SPSS version 22.0 (Illinois, Chicago). Paired sample t-test was used to find the monthly average income of farmers before and after the intervention. A p value of < 0.05 was deemed as statistically significant. Secondary data were collected from baseline survey,published research works, newsletter, journals.

Table 4 Sample frame for local Government Areas

Local Govt Areas	Number of beneficiaries	Number of respondents selected
1.Ardo Kola	**2418**	**133**
2.Gassol	**1732**	**96**
3.Wukari	**2449**	**135**
TOTAL	**6599**	**364**

4.4.1 Population and Sample size determination

The total number of beneficiaries in the three LGAs are 6,599 rice and cassava farmers. From this, 364 were chosen as the study sample. The sample size was obtained using a sample size calculator[6]. The confidence level of 95% and confidence interval of 5 % were used. In addition, focus group discussion and key informant interview were conducted.

4.4.2 Preparation of instrument and description of the questionnaire

The questionnaire had five sections. Section A asked questions on the Socio-Economic and Demographic Characteristics of Respondents. Questions asked were, age of respondents, sex, marital status, household size, average monthly income, highest education level attained , farmland ownership, farm size, type of produce planted, type of enterprise unit, beneficiary of IFAD programme, years of farming experience and having enough information about the value chain. Section B asked questions on productivity. Questions asked were whether the respondent's production capability has been enhanced? Is the support given by IFAD in terms of access to inputs adequate? Section C asked questions on the Socio-economic wellbeing of farmers. Questions asked were, the amount of their average monthly income before and after the intervention, improvement in the level of physical and financial assets, the respondents were asked to indicate whether there has been improvement in their physical and financial assets, access to social services, market access, equal opportunities in terms of getting input supply,

[6] (available at http://www.system.com/sscalc)

linkage and market information. Section D asked the respondents about the marketing strategies used in selling their produce.

4.5 Reliability of Instrument

The questionnaire employed for the primary data in this study was pilot-tested at Jalingo, the capital of Taraba state and found the instrument very reliable. Some corrections were made before carrying out the main study. Although the respondents may be unwilling to respond to some questions the questionnaire was still able to capture relevant and needed information based on their opinions.

Table 5 Analysis of Objectives of the study

1.	To access the level of productivity of the beneficiaries of Value chain development programme.	• Production output • Production cost • Sales output • Profit	Descriptive (frequency distribution, mean) and inferential statistics (regression and T-test)
2.\	To determine the level of improvement in the socio-economic well-being of the IFAD beneficiaries.	• Household's income • Revenue generated • Health care	Descriptive (frequency distribution, mean) and inferential statistics (regression and T-test)

The data collected was coded and analyzed using statistical package for social sciences IBM (SPSS) version 22.0 (Illinois,Chicago). Data Collected were verified coded, entered, cleaned and merged in data sheet. Both quantitative and qualitative data were generated for the study and presented through combination of cross tabulation and graphical representations. Descriptive statistics (frequencies, percentage, mean and standard deviation) and inferential statistics (paired sample t test) were used to ascertain the distribution of variables in the study to determine the impact of IFAD/VCDP among beneficiaries in the study area.

4.6 Data collection procedure

There was a pre-test at Jalingo to test for validity and reliability of the research instrument. The pre-test was carried out with the help of Liaison officers and extension agents. Data collected for the survey was made possible with the help of my supervisor who got me enumerators. These enumerators were trained on a one day pre-field training exercise.

The enumerators are extension agents and Liaison officers who have a practical knowledge of Agriculture and the way of life of the people in the study area. The researcher and enumerators made use of vehicles provided by IFAD/VCDP to get to study areas which are remote villages and farms.

4.6.1 Measurement of variables and a priori expectation

The study measured inputs received and output, outcome and impact indicators of dependent and independent variables.

Input indicators – The resources and efforts required in the production of cassava and rice were measured .Measurement was made of skills and knowledge acquired and the land needed to carry out production, processing and Marketing.

Output indicators – The study measured deliverables of the production process. The amount of goods produced by farmers was measured using standard scaling.

Other indicators determined by the study are the socio-economic characteristics of the beneficiaries for example, age, gender, village saving and credit group, marital status, average monthly income, highest education level attained, farmland ownership, farm size, type of produce planted, type of enterprise unit, beneficiary of the IFAD programme, years of farming experience. Productivity, socio-economic wellbeing, farmers income, physical and financial assets, access to social services; access to drinking water, access to food ,household food security, access to primary and secondary school for their children ,access to health services. Market access, equal opportunities, marketing strategies; farm gate, local market, agro industries and farmers cooperatives.

4.7 Research Study Area

Taraba State is a state in Nigeria named after the Taraba River which transverse the southern part of the state. The capital of Taraba state is Jalingo. Taraba state is bounded in the West by

Plateau, Nassarawa and Benue state; on the eastern border by Adamawa state and the Republic of Cameroon; and on the northern border by Gombe state. Their major occupation is Agriculture and other primary activities like fishing, embroidery, cloth weaving and blacksmithing

Figure 3 Map of Nigeria showing Taraba state

Source: www.nigerianmuse.com/images/

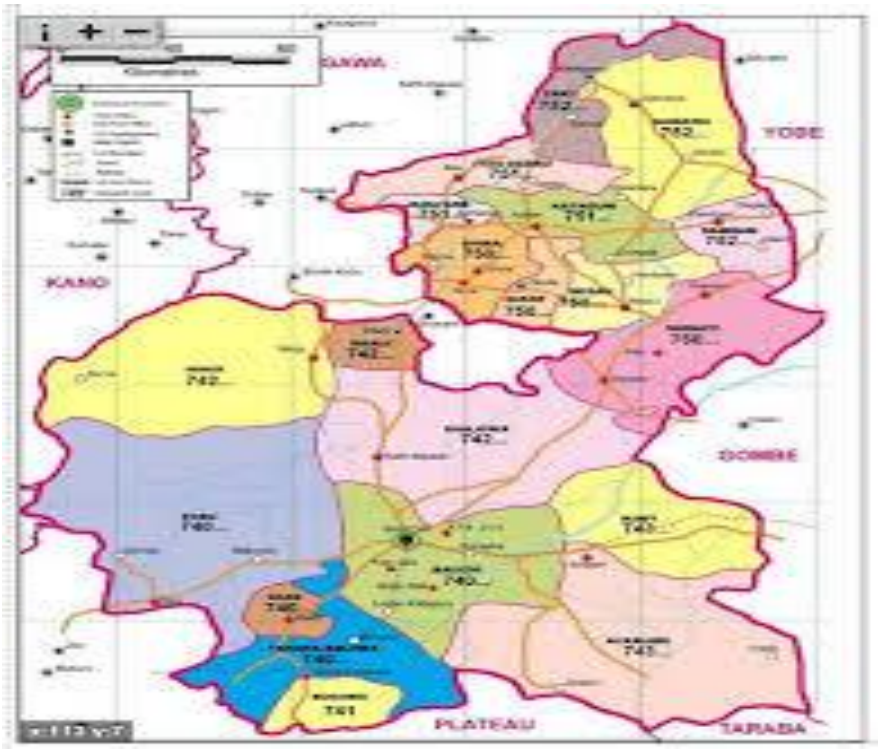


Figure 4 Map of Taraba showing the study areas where research was carried out (Ardo-Kola, Gassol and Wukari LGA

Source :www.google.com

Like most part of Northern Nigeria, Taraba state has a wet and dry season. The wet season lasts on the average from April to October with mean annual rainfall that varies between 1058mm in the north around Jalingo and Zing, to over 1300mm in the South around Serti and Takum. The wettest months are August and September. The dry season lasts from November to March. The driest months are December and January with relative humidity dropping to about 15 percent? Mean annual temperature around Jalingo is about 28℃ with maximum temperatures varying between 30℃ and 39.4℃ and minimum temperatures range between 15 to 23℃.

p value of < 0.05 was deemed as statistically significant. Secondary data were collected from baseline survey,published research works, newsletter, journals.

Chapter Five
RESULTS AND DISCUSSION

5.1 Introduction

This section reveals the socio-economic and demographic information of the respondents that were interviewed. Information on age, household size, monthly income, farm size, farming experience, gender, marital status, level of education, farm land ownership, type of enterprise unit, and type of farm produce cultivated by the farmers were collected.

5.2 Section A: Socio-Economic and Demographic Characteristics

This section reveals the socio-economic and demographic information of the respondents that were interviewed. Information on age, household size, monthly income, farm size, farming experience, gender, marital status, level of education, farm land ownership, type of enterprise unit, and type of farm produce cultivated by the farmers were collected.

The descriptive statistics of the age of respondents showed that the least and highest age observed among them were 18 years and 67 years respectively, with an average of approximately 39 years and standard deviation of almost 9 years. The results also showed that the least and highest observed household sizes were 1 person and 30 persons respectively, with an average household size of 8 persons, and a standard deviation of 4 persons. Results also revealed a minimum and maximum monthly income of 5,000 (naira) and 500,000 (naira) respectively, with an overall average of approximately 36,000 (naira).

Information on the farm size of farmers showed that the minimum and maximum farmland cultivated was 1 hectare and 5 hectares respectively, with an average of farmland of 1.8 hectares. Results also revealed that the least and highest farming experience among the interviewed farmers was 1 years and 40 years respectively, with an average of about 13 years of farming experience among the farmers.

Table 6 Descriptive Statistics on Socio-Economic and Demographic Information

	N	Min.	Max.	Mean	Std. Dev.
Age (Yrs.)	364	18	67	39.29	8.75
Household Size (persons)	364	1	30	7.69	4.43
Monthly Income (in Naira)	364	5,000	500,000	36,222.5	45,609.5
Farm Size (Ha.)	364	1	5	1.83	1.00
Farming Experience (Yrs.)	364	1	40	12.9	7.67

Source: Field Survey 2018

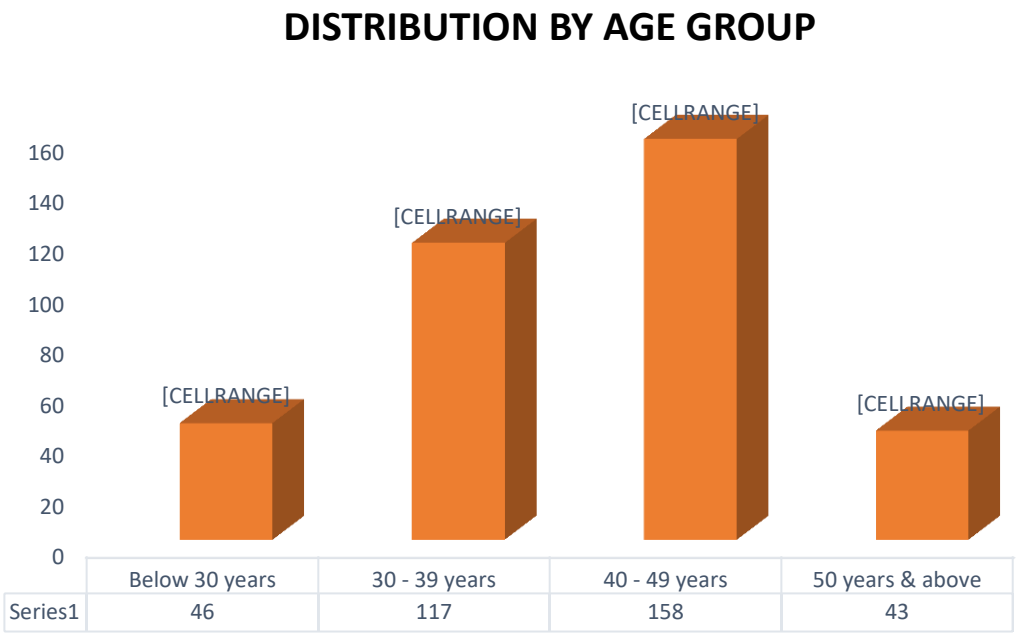


Figure 5 Age distribution of respondent

The distribution of the respondents by age group, as seen on figure 1, showed that 43%, of the interviewed persons were in age group “40 – 49 years”; while about 32% were in the age group “30 – 39 years”; about 13% reported have ages below 30 years; while about 12% were found to belong to age group of “50 years and above”.

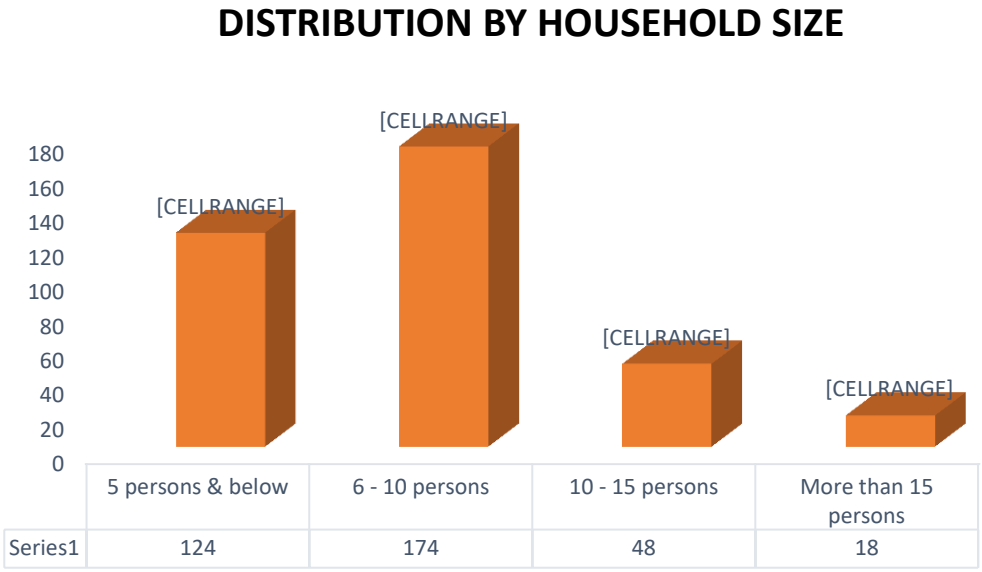


Figure 6 Household size distribution of respondents

Source: Field Survey 2018

The distribution of the respondents by household size, as seen on figure 2, showed that the majority of the farmers had household sizes of "6 – 10 persons", amounting to about 48% of the farmers; about 34% were found to have household sizes of "5 persons or below"; not more than 13% had household sizes of "10 – 15 persons"; while about 5% indicated to have household sizes of "more than 15 persons"

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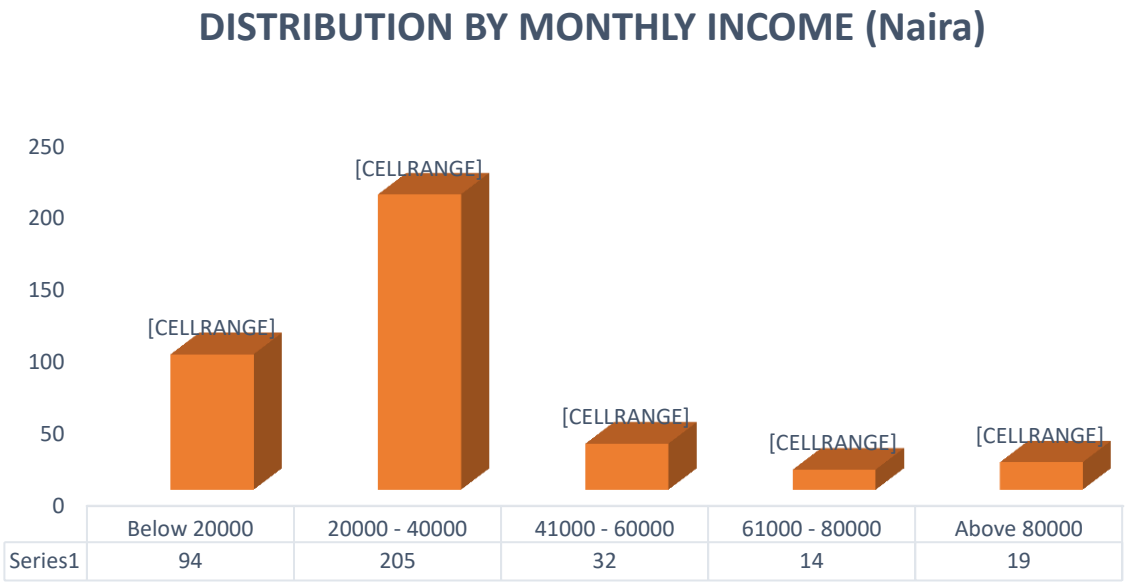

Figure 7 Monthly income of respondents

Source: Field Survey 2018

The distribution of the interviewed farmers according to their monthly income revealed that the most of the farmers were earning between 20,000 and 40,000 (naira), as indicated by about 56% of the entire respondents. The second majority, about 26%, indicated to earn below 20,000 (naira) on monthly basis. Only about 5% indicated to have monthly earnings of "above 80,000 (naira).

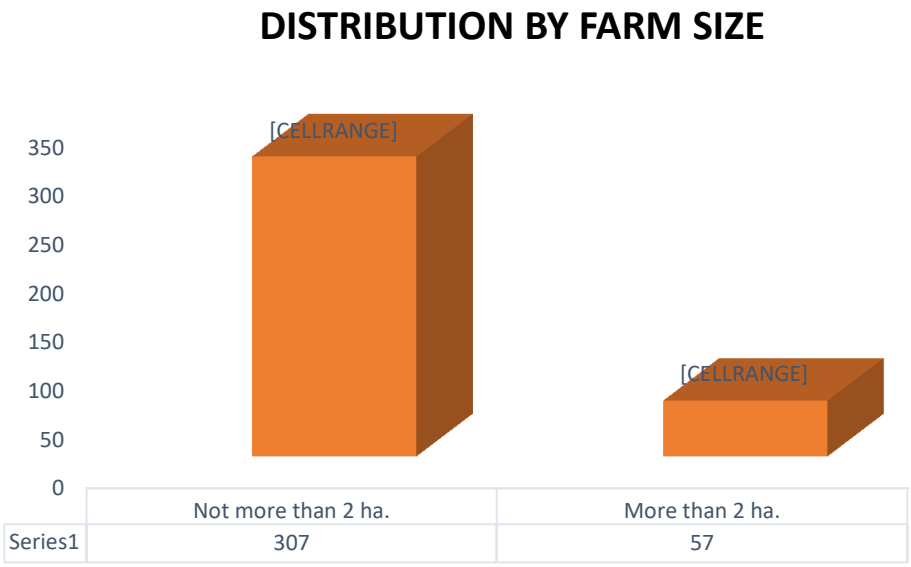

Figure 8 Farm size of the respondents

Source: Field Survey (2018)

The distribution of the farmers by their farm sizes showed that most of them, amounting to about 84%, indicated to own farmlands of "not more than 2 hectares"; while about 16% indicated to own farmlands of "more than 2 hectares". The size of the farms shows that the farmers are small holder farmers.

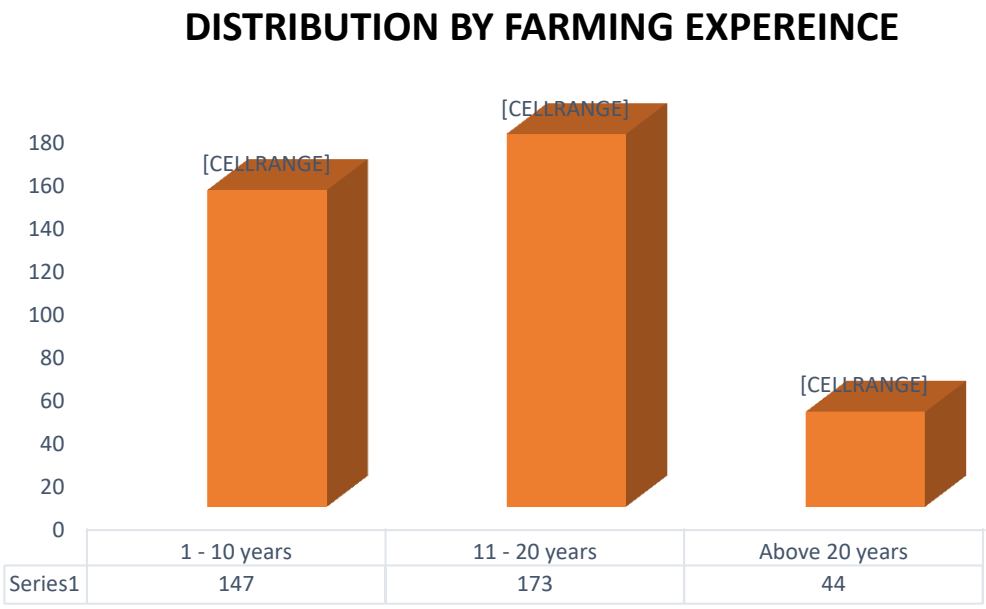

Figure 9 Years of farming experience of respondents

Source : Field Survey 2018

The distribution of the farmers by their farming experience showed that up to 48% had experience of "11 – 20 years" of farming experience; while about 41% had experience of "1 – 10 years" of farming; while the least, about 12%, had experience of "above 20 years" in the farming activities.

Table 7 Categories of Socio-Demographic Characteristics

Characteristics		Frequency	Percentage
Gender	Male	244	67.0
	Female	120	33.0
Marital Status	Single (Never Married)	69	19.0
	Married	275	75.5
	Separated	4	1.1
	Widowed	16	4.4
Level of Education	No Formal Education	19	5.2
	Primary Education	28	7.7
	Secondary Education	133	36.5
	Arabic/Islamic Education	12	3.3
	Tertiary Education	163	44.8
	Other Form of Education	9	2.5
Farm Land Ownership	Personal	132	36.3
	Rented/Leased	84	23.1
	Family owned	146	40.1
	Communal owned	2	0.5

Type of Enterprise Unit	Production	282	77.5
	Processing	71	19.5
	Marketing	11	3.0
Type of Produce Planted	Cassava	81	22.3
	Rice	233	64.0

Source: Field Survey 2018

Socio-economic characteristics of the respondents

Table 7 shows the categories of other socio-economic and demographic characteristics obtained from the interviewed farmers. The results revealed that about 67% of the farmers were male, while 33% were female. The distribution of these farmers according to their marital status showed that, most of them, about 76% were married; while about 19% were reported to be single but never married; 4% were reported to be widowed, and 1% indicated to have been separated. The distribution of the farmers according to their level of education revealed that the majority of them, amounting to about 45% indicated to have had tertiary education; about 37% indicated to have had not more than secondary education; about 8% indicated to have had only primary education; 5% were observed to have no formal education; while only about 3% indicated to have had Arabic/Islamic education.

The results also revealed that about 36% of the farmers personally owned their farmlands; while about 23% cultivate their crops on rented/leased farmlands; up to 40% indicated their farmlands were family owned; and lastly, not more than 1% indicated their farmlands were communal owned. Furthermore, the study revealed that about 77% were farmers who were into farm production; about 19% were into processing of farm produce; and, 3% were into marketing of farm produce. It was also exposed that the majority of the interviewed farmers were into rice production only, while about 22% were into cassava production; not more than 9%,

approximately, were reported to deal with cassava and rice production simultaneously; lastly, about 5% indicated they produce other crops different from rice and cassava.

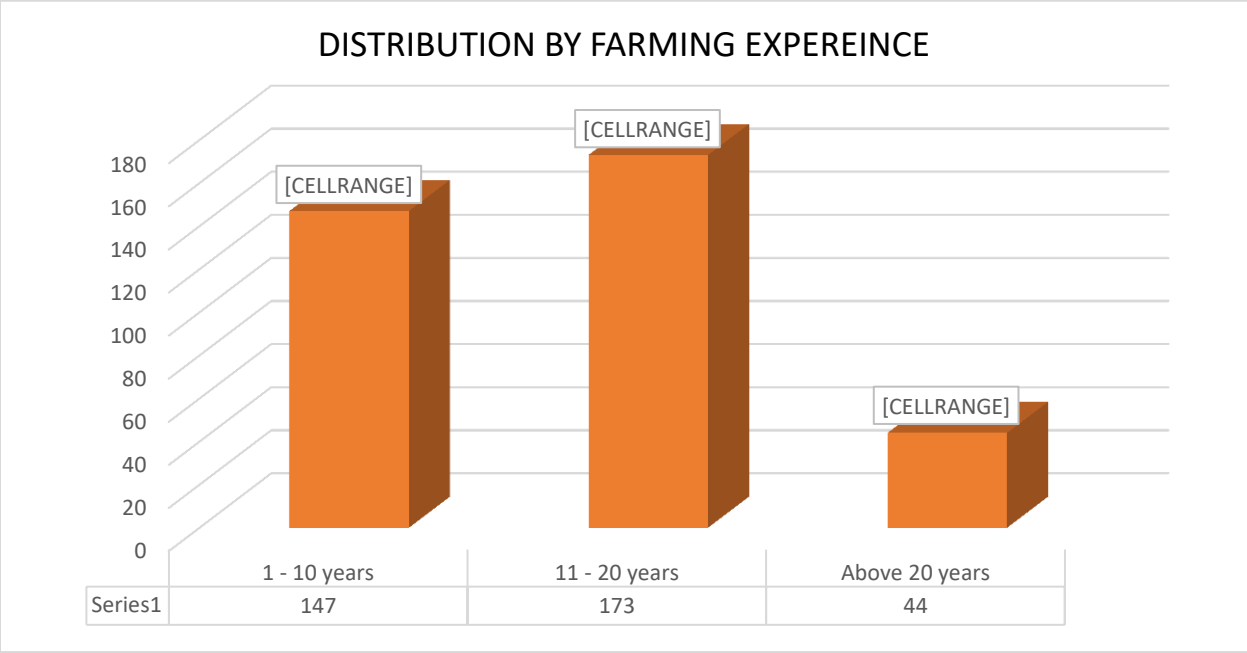

Figure 9 Years of farming experience of respondents

Source : Field Survey 2018

The distribution of the farmers by their farming experience showed that up to 48% had experience of "11 – 20 years" of farming experience; while about 41% had experience of "1 – 10 years" of farming; while the least, about 12%, had experience of "above 20 years" in the farming activities.

Table 8 Responses of Farmers to adequate information on the Value Chain Programme

	Frequency	Percentage
Had enough information about value chain?	346	95.1
Not had enough information about value chain	18	4.9

Total	**364**	**100.0**

Source: Field Survey 2018.

The study enquired from the farmers if they had previously received enough information about the value chain. It was revealed up to 95% responded positively to have had enough information about the value chain as they needed, while about 5% revealed they had not enough information.

5.3 Nature and Magnitude of productivity of the beneficiaries of value chain development programme

5.3.1 Objective one; to analyse the level of productivity of the beneficiaries of Value Chain Development Programme.

To analyse the level of change in the productivity of farmers since the inception of the intervention programme, enquiries were made on section B of the research instrument. Results of the enquiry showed that up to 98% of the farmers perceived their production capability has been enhanced since the commencement of the IFAD. About 95% responded that the support they have had through the IFAD, with regards to their farming inputs, has been adequate. Up to 97% of the farmers stated that the barriers and bottle necks along the value chain has been adequately addressed. About 94% reported they have received improved rice seedlings and cassava cuttings since their participation in the IFAD programme. Approximately, 97% of the interviewed farmers indicated they have experienced increased sales output since they began participating in this program.

Furthermore, the study revealed that 99% of the farmers have had an increasing number of customers and buyers, as effected by their participation in the IFAD programme; also, up to 99% indicated they have had increase in their profit margin since they started the IFAD programme. About 96% indicated they have been able to reduce their production cost, as a result of their participation in the IFAD. About 76%, 74% and 76% indicated they have received fertilizers, urea and herbicide since their participation in IFAD.

Table 9 Responses on Enquiries on Farmers' Perception to Change in their Productivity Level

	Yes		No	
	Frequency	**Perc.**	**Frequency**	**Perc.**
Has your production capability been enhanced?	358	98.4	6	1.6
Is the support being given by IFAD in terms of inputs adequate?	347	95.3	17	4.7
Have the barriers and bottle necks along the value chain been adequately addressed?	352	96.7	12	3.3
Were you given improved rice/cassava?	341	93.7	22	6.0
Has your sales output increased during participating in this program?	355	97.5	9	2.5
Has your number of customers and buyers increased?	360	98.9	4	1.1
Have you been able to reduce number of waste, scraps and rejects in your produce?	358	98.4	6	1.6
Has your profit increased since your participation in the IFAD programme?	360	98.9	4	1.1
Have you been able to reduce your production cost since participation in the programme?	351	96.4	13	3.6
Did you receive fertilizers?	276	75.8	88	24.2
Did you receive urea?	269	73.9	95	26.1
Did you receive herbicide?	276	75.8	88	24.2

Source: Field Survey 2018

Information obtained on harvest yield of the farmers while they used the previous variety and while they used the improved was revealed on table 7. Harvested yield was segregated by

categories of crop produced by farmers. It was obtained among cassava producers only that the least and highest yield recorded with the cassava cutting varieties used before the IFAD was 1 tonne and 10 tonnes respectively, with an average yield of approximately 3 tonnes for each of the farmers, and a standard deviation of 1.44; while the least and highest yield observed with the improved variety of the cassava cuttings was 2 tonnes and 30 tonnes respectively, with an average yield of 5.5 tonnes for each farmer, and a standard deviation of 3.5 tonnes.

Information received among rice producers only showed that their yield measure with the previous rice seedlings gave them a minimum and maximum yield of 1 tonne and 20 tonnes respectively, with an average yield of about 3 tonnes per farmer, and a standard deviation of 1.73; while the yield obtained with the use of the IFAD improved variety rice seedlings gave them a minimum and maximum yield of 1 tonne and 100 tonnes respectively, with an average harvested yield of approximately 6 tonnes per farmer, and a standard deviation of 7.3 tonnes.

Table 10 Descriptive Statistics on Yield among Farmers

		Min.	Max.	Mean	Std. Dev.
Cassava Producers Only	Yield using previous variety	1	10	2.99	1.44
	Yield using improved variety	2	30	5.46	3.49
Rice Producers Only	Yield using previous variety	1	20	3.12	1.73
	Yield using improved variety	1	100	5.91	7.26

Source: Field Survey 2018

Information on the input received by the farmers from the IFAD, as seen on table 11, showed that the farmers received up to 6bags of fertilizers and 4bags of urea, with an average of about 4.6kg of fertilizers and 2.1kg of urea received per farmer.

Table 11 Descriptive Statistics on Input Received

	Min.	Max.	Mean	Std. Dev.
NPK Fertilizer Received (kg)	4	6	4.63	0.93
Urea Received (kg)	2	4	2.06	0.34

Source: Survey 2018

Hypothesis 1: There is no difference in the level of productivity among farmers before and after intervention

Table 12 Hypothesis 1 Results

	Average Yield	**Std. Dev.**	r	**t-value**	**DF**	**P-Value**
Yield using previous variety	3.16	1.80	0.27 (0.00)	-8.53	363	0.00
Yield using improved variety	5.87	6.29				

Source: Field Survey 2018

To check if there has been a significant difference in the overall yield of farmers between the periods of use of previous varieties and the periods of improved varieties provided by the IFAD, the paired sample t-test was employed, and result shown on table 12.

The average yield per farmer estimated on the previous varieties and improved varieties were 3.2 tonnes and 5.9 tonnes respectively. The correlation coefficient also showed that there is very weak correlation between yield recorded with previous varieties and yield recorded with improved varieties; thus, implying that the observed increment in yield with the use of improved variety is not directly proportional to yield obtained with use of the previous yield.

The t-test statistic gave a value of−8.53, at 363 degrees of freedom, with a p-value of 0.00; thus implying that the observed 86% increment in yield is statistically significant.

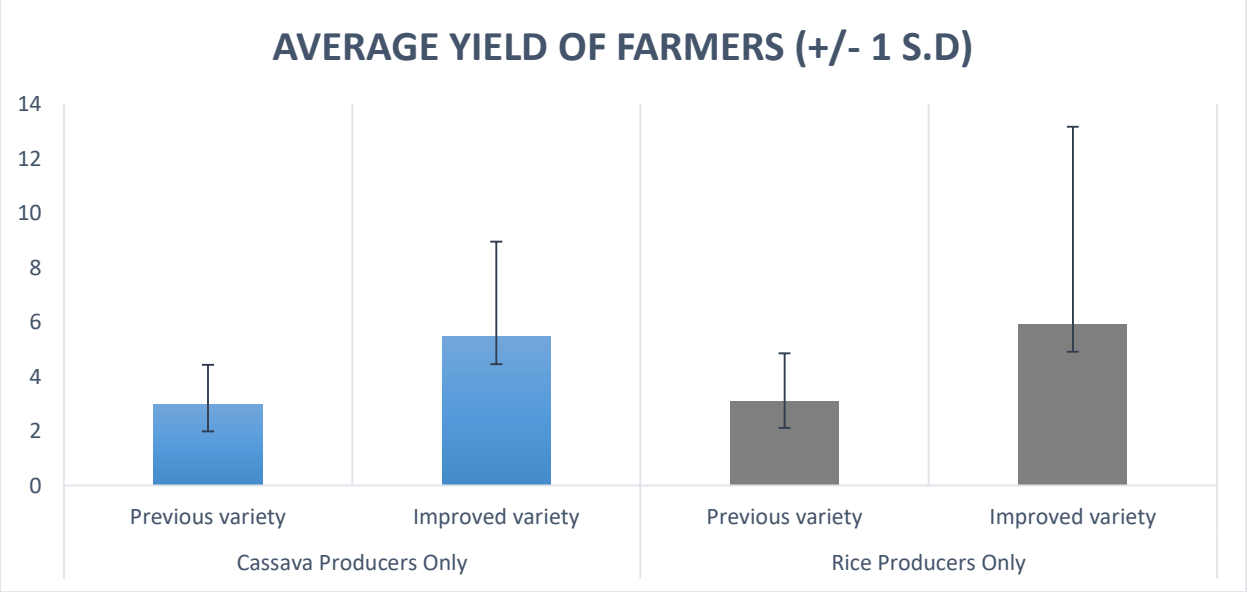

Figure 8 Average yield of farmers.

Source: Field Survey 2018

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5.4 Effects of VCDP on the socio-economic well-being of the beneficiaries.

5.4.1 Objective two: To examine the effects of Value Chain Development Programme on the Socio-economic wellbeing of the beneficiaries

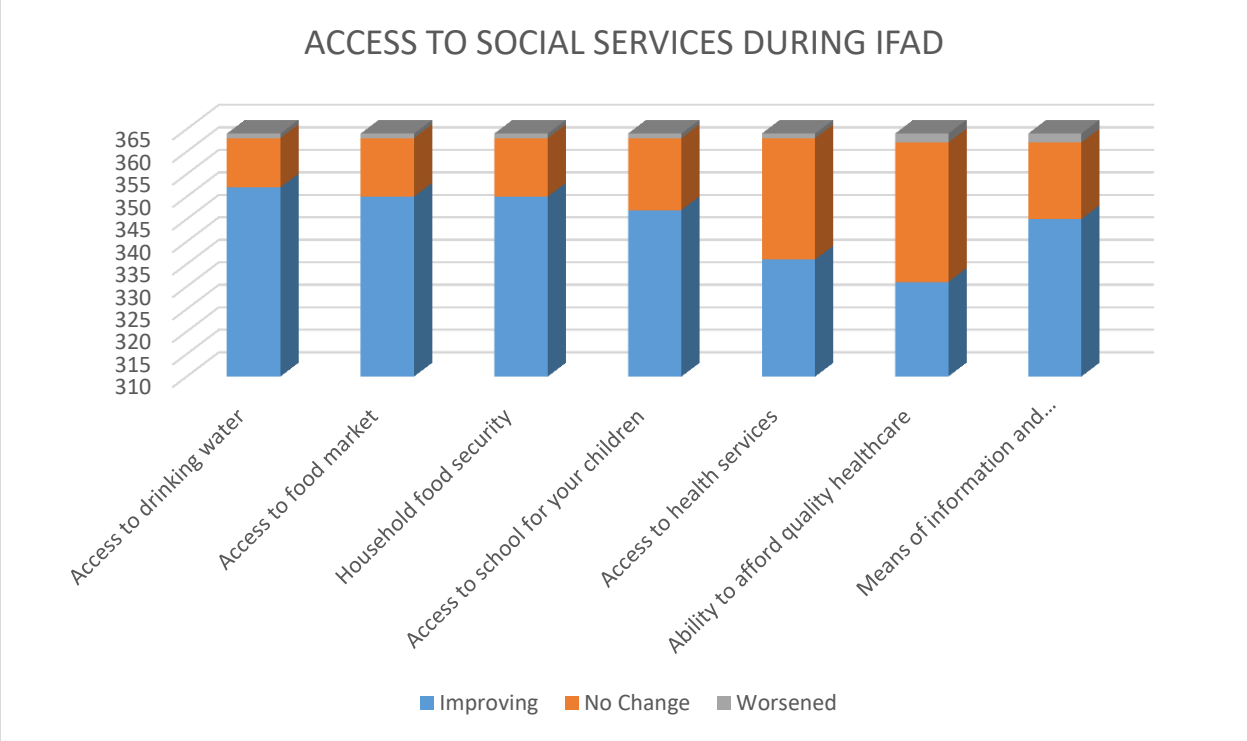

Figure 9 Farmers Access to Social Services

Source: Field Survey 2018

To measure the level of improvement in the socio-economic well-being of the farmers, information on the farmers' income were obtained and analysed separately by type of produce of the farmers.

The minimum and maximum income recorded among the producers of cassava only was 5,000 (naira) and 180,000 (naira) respectively, with an average monthly income of 27,000 (naira) with the previous variety of the cassava cuttings; since the inception of the IFAD, the improved cassava cutting variety has given a minimum and maximum income level of 8,000 (naira) and 540,000 (naira) respectively, with an average of income level of 48,000 (naira) per farmer among the cassava only producers.

The minimum and maximum income recorded among the producers of rice only was 3,000 (naira) and 300,000 (naira) respectively, with an average monthly income of 29,000 (naira) with the previous variety of the rice seedlings; while since the inception of the IFAD, the improved rice seedling variety has given a minimum and maximum income level of 7,000 (naira) and 650,000 (naira) respectively, with an average of income level of 56,000 (naira) per farmer among the rice only producers.

Further enquiry made to find out the farmers' perception to their change in income before and during the intervention showed that about 92% reported they were satisfied with their income change since their participation on IFAD, while the remaining 8% were not satisfied with their income change.

Table 13 Descriptive statistics on Average monthly income for rice and cassava Farmers before and after intervention

Variable	Before Intervention	After Intervention
Average income for cassava producers	5,000	27,000
Average income for rice producers	3,000	29,938

Source: Field Survey 2018

Table 13 shows the descriptive statistics on average monthly income of rice and cassava farmers. It showed that before the intervention cassava farmers' average income was 5,000, and rice farmers average income was 3,000.But, after the intervention, cassava producer's income increased to 27,000, while rice producer's average monthly income has increased to 29,938

Table 14 Farmers' Perception to their Income Change

	Frequency	Percentage
Satisfied with income change	335	92.0
Not satisfied with income change	29	8.0
Total	**364**	**100.0**

Hypothesis 2: There is no difference in income level of farmers before and after intervention

Table 15 Hypothesis 2 Results

	Average Income	**Std. Dev.**	r	**t-value**	**DF**	**P-Value**
Income before intervention	33,379.3	46,005.4	0.85 (0.00)	-9.26	363	0.00
Income during intervention	60,026.1	88,421.7				

Source: Field Survey 2018

To check if there has been a significant difference in the estimate of the monthly income of farmers before the intervention and during the intervention, the paired sample t-test was employed, and result shown on table 14.

The average income before the intervention and during the intervention among the interviewed farmers were 33,000 (naira) and 60,000 (naira) respectively. The correlation coefficient (r = 0.85) also showed that there is a positively strong correlation between income level before the intervention and during the intervention, implying that the observed increment in the farmers' income level during the intervention is directly proportional to the income level before the intervention.

The t-test statistic gave a value of -9.26, at 363 degrees of freedom, with a p-value of 0.00; thus implying that the observed 80% increment in the overall income level is statistically significant.

Hypothesis 3: There is no difference in income level among farmers with difference type of produce.

Table 16 Hypothesis 3 Results

	Sum of Squares	**DF**	**Mean Square**	**F**	**Sig.**
Type of Produce	12.04	3	4.01	5.32	0.001
Error	271.8	360	0.75		
Total	**283.8**	**363**			

Source : Survey(2018)

To check if the income levels among farmers who produce various crops differs, the one-way Analysis of Variance (ANOVA) was used.

The t-test statistic gave a value of 5.32, at degrees of freedom of 3, 360; thus, a p-value of 0.001 was obtained. Hence, conclusion can be made that there is a statistically significant difference in the income levels of farmers who produce varying crops.

4: There is no difference in income level among farmers with difference type of enterprise unit.

Table 17 Hypothesis 4 Results

	Sum of Squares	DF	Mean Square	F	Sig.
Type of Enterprise	0.29	2	0.15	0.19	0.83
Error	2.83.5	361	0.79		
Total	**2.83.8**	**363**			

Source: Field Survey 2018

To check if the income levels among farmers who differs according to their type of enterprise, the one-way Analysis of Variance (ANOVA) was used.

The t-test statistic gave a value of 0.19, at degrees of freedom of 2, 361; thus, a p-value of 0.83 was obtained. Hence, conclusion can be made that there is no statistically significant difference in the income levels of farmers in different enterprise categories (marketing, production and processing).

Table 18 Tukey Classification: Difference in Income Level by Enterprise Unit

	Group 1
Marketing	56,272.7
Production	58,730.5
Processing	65,753.5

The Tukey classification technique used as post-hoc check revealed that farmers who were into marketing enterprise had the least average income level of about 56,000 (naira) on monthly basis; farmers into production enterprise had an intermediary average income level of about 59,000 (naira); while the farmers in the processing enterprise unit had the highest average income of about 66,000 (naira). Notably was that, the Tukey classification showed there was no statistically significant different in the income levels across the enterprise unit group.

5.5 Level of Improvement of Physical and Financial Assets

The study also tried to find out the farmers' perception towards improvement on their physical assets between periods of before the intervention and during the intervention. The research instrument was designed to indicate whether they perceive a worsened change, or no change, or an improving change.

It was obtained that about 94% indicated there has been an improvement in the size/number of landed property they owned since they joined the IFAD programme; up to 92% and 93% also indicated they had experienced improvement in their size and quality of their dwelling unit respectively; about 84% indicated there has been an improvement in their means of transportation, with about 11% stating there has been no change in their transportation means since their participation on the IFAD programme; not more than 76% indicated they have had improvement on the electrical appliances owned since their participation on the IFAD programme, while 21% indicated they had not experienced a change in the electrical appliances owned.

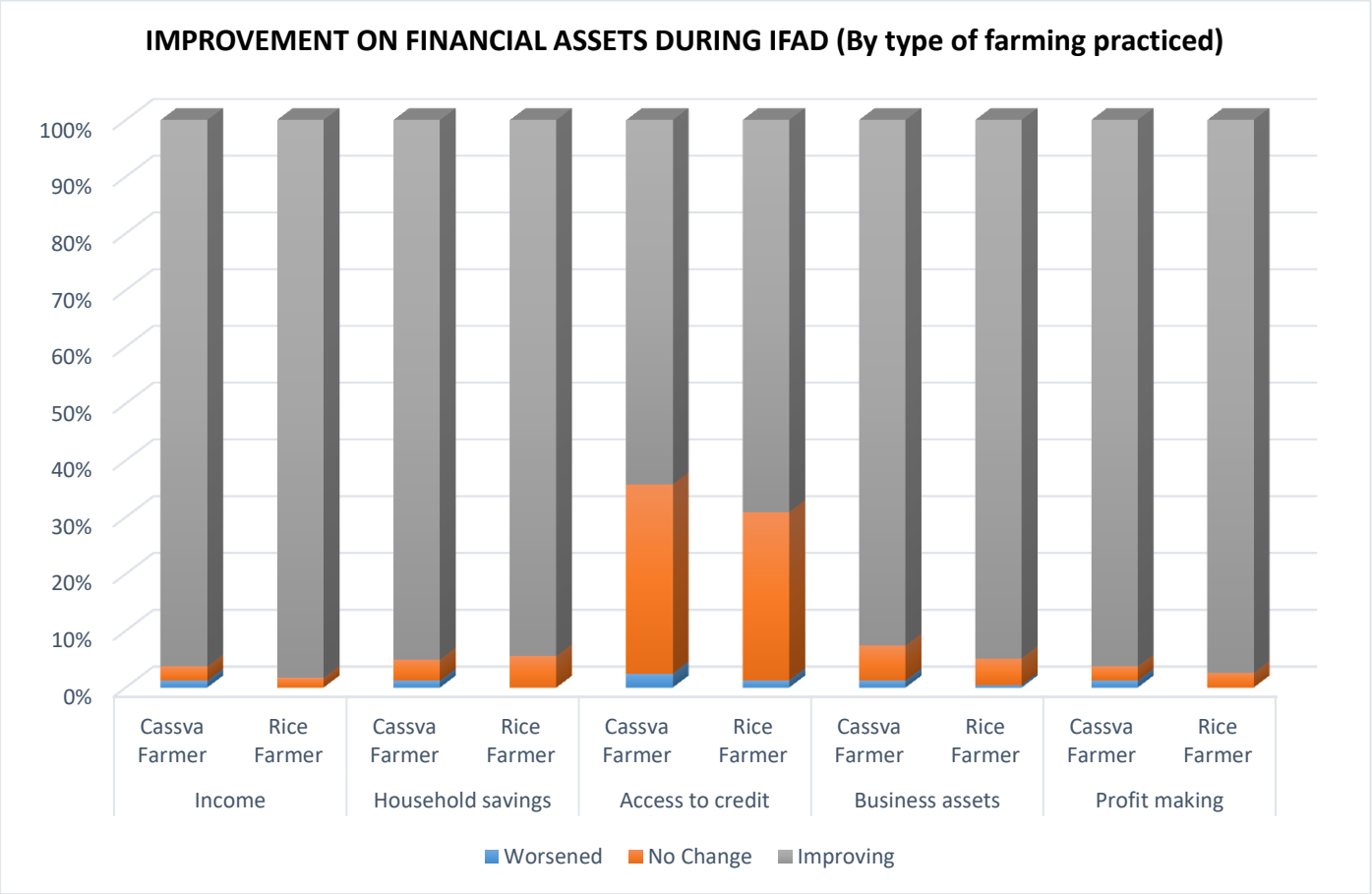

Figure 10 Improvement on Financial Assets

Source: Field Survey 2018

It was also revealed that about 84% stated they have had improvement on their hectare of land under irrigation, while almost 16% indicated there has been no change in that regards. Almost 91% indicated they had experienced improvement in the crops they cultivate, while not more than 8% indicated no change in their cultivated crops, since their commencement on the IFAD programme. Up to 85% indicated their harvesting system had undergone an improvement since their commencement of the IFAD, with the remaining 15% stating there has been no change. About 83% stated they have had improvement on their farm machineries since the commencement of the IFAD, with 16% stating no change in their use of farm machineries.

Table 19 Farmers' Perception to Improvement on Physical Assets

	Worsened	No Change	Improving
Size/Number of landed property owned	-	22 (6.1%)	341 (93.9%)
Size of dwelling unit	4 (1.1%)	25 (6.9%)	335 (92.0%)
Quality of dwelling unit	4 (1.1%)	21 (5.8%)	339 (93.1%)
Means of transport	17 (4.7%)	42 (11.5%)	305 (83.8%)
Electrical appliances	12 (3.3%)	75 (20.6%)	277 (76.1%)
Hectares of land under irrigation	2 (0.5%)	57 (15.7%)	305 (83.8%)
Hectares under improved management	-	37 (10.2%)	327 (89.8%)
Crops cultivated	3 (0.8%)	31 (8.5%)	330 (90.7%)
Livestock water points	7 (1.9%)	101 (27.7%)	256 (70.3%)
Harvesting system	-	55	309

		(15.1%)	(84.9%)
Farm machi	3	60	301
nery	(0.8%)	(16.5%)	(82.7%)

Source: Field Survey 2018

The study also tried to find out the farmers' perception towards improvement on their financial assets between periods of before the intervention and during the intervention. The research instrument was designed to indicate whether they perceive a worsened change, or no change, or an improving change. Results of the enquiry are revealed on table 20.

It was obtained that about 97% stated there has been an improvement in their income, since their participation on the IFAD; about 95% indicated there has been an improvement in their household savings, while 5% believed there has been no change in their household savings since their participation in the IFAD programme; not more than 68% stated there has been an improvement in their access to credit, while 30% indicated there has been no change in their access to credits, since their participation on IFAD; 92% believed their business assets have been improving since they joined the IFAD programme; not less than 97% stated their profit making has been improving since they joined the IFAD.

Table 20 Farmers' Perception to Improvement on Financial Assets

Variable	Worsened	No Change	Improving
Income	1 (0.3%)	10 (2.7%)	353 (97.0%)
Household savings	1 (0.3%)	18 (4.9%)	345 (94.8%)
Access to credit	6 (1.6%)	110 (30.2%)	248 (68.1%)
Business assets	3 (0.8%)	26 (7.1%)	335 (92.0%)
Profit making	1 (0.3%)	9 (2.5%)	354 (97.3%)

Source: Field Survey 2018

Furthermore, the study made enquiry from the farmers about their perception towards their access to social services since they began the IFAD programme. Results of the enquiry can be seen on table 21.

Almost 97% stated their access to drinking water has improved since they joined the IFAD; 96% stated they have been experienced improvement in their access to food market and household food security, since the commencement of the IFAD; 92% stated their access to health services has been improving since the IFAD programme started, while about 7% stated there has been no change in their access to health services; about 95% indicated there has been an improvement in their means of information and communication, since they started the IFAD.

Table 21 Farmers' perception to improvement on access to social services

Variable	Worsened	No Change	Improving
Access to drinking water	1 (0.3%)	11 (3.0%)	352 (96.7%)
Access to food market	1 (0.3%)	13 (3.6%)	350 (96.2%)
Household food security	1 (0.3%)	13 (3.6%)	350 (96.2%)
Access to Primary/Secondary school for your children	1 (0.3%)	16 (4.4%)	347 (95.3%)
Access to health services	1 (0.3%)	27 (7.4%)	336 (92.3%)
Ability to afford better and quality healthcare	2 (0.5%)	31 (8.5%)	331 (90.9%)
Means of information and communication	2 (0.5%)	17 (4.7%)	345 (94.8%)

Source : Field Survey 2018

Furthermore, the study made enquiry from the farmers their perception towards their access to market services since they began the IFAD programme. Results of the enquiry can be seen on table 22.

Almost 92% stated their access to market has improved since the IFAD programme started, while not more than 7% stated there has been no change in access to market; about 89% indicated there has been an improvement in their access to modern storage facilities, with 11% who indicated they had no change in their access to storage facilties; up to 87% indicated there has been an improvement in their access to market stalls and stores, while 11% indicated there has been no change, since the commencement of the IFAD; up to 94% indicated they have had an improving access to market information since the commencement of the IFAD; not less than 84% also indicated there has been an improved ease of rural-urban movement since the commencement of the IFAD, while about 10% stated there has been no change in that regards; up to 94% indicated a change in food prices since their involvement in the IFAD programme.

Table 22 Farmers' perception to improvement on access to market services

Variable	Worsened	No Change	Improving
Access to market	4 (1.1%)	24 (6.6%)	336 (92.3%)
Access to modern storage facilities	1 (0.3%)	40 (11.0%)	323 (88.7%)
Access to market stalls and stores	5 (1.4%)	41 (11.3%)	318 (87.4%)
Cost of transportation	16 (4.4%)	50 (13.7%)	298 (81.9%)
Access to market information	1 (0.3%)	22 (6.0%)	341 (93.7%)

Ease of rural-urban movement	22 (6.0%)	37 (10.2%)	305 (83.8%)
Change in food prices	3 (0.8%)	19 (5.2%)	342 (94.0%)

5.6 Section D: Responses on Marketing Strategies

Farmers' responses on the marketing strategies they employ in selling their goods showed that the majority of them sell their produce through farm cooperatives, as indicated by about 94% of them; up to 86% stated they sell their farm produce through the agro-industries; up to 76% indicated they sell their produce at the local markets; not more than 19% stated they sell their produce through their various farm gates.

Table 23 Farmers' Responses on Marketing Strategies

Variable	Yes	No
Use of Farm gate	68 (18.7%)	296 (81.3%)
Use of Local market	277 (76.1%)	87 (23.9%)
Use of Agro industries	312 (85.7%)	52 (14.3%)
Farmers Cooperatives	343 (94.2%)	21 (5.8%)

More enquiry was made to determine which of the listed strategies contributes mostly to the profit on sales for the farmers. It was obtained that about 10% indicated farm gates sales has improved their profit on sales mostly; about 22% indicated their sales from the local market has improved their profits mostly; about 35% stated their sales through the agro-industries has improved their sales mostly; lastly, about 32% believed that their profit on sales has been improved mostly by their sales through farmers' cooperatives.

Table 24 Response on Marketing Strategy that led to Improved Profit on Sales

	Frequency	**Percentage**
Farm gate	37	10.2
Local market	82	22.5
Agro industries	128	35.2
Farmers' cooperatives	117	32.1
Total	**364**	**100.0**

Source; Field Survey 2018

Table 22 shows that there was improvement in the profit on sales of farmers. Agro industries had the highest percentage which is 35%, while farmer's cooperatives had 32 %, Local market had 22% and Farm gate had the least which is 10%.This implies that, farmers make more profit when they sell to Agro industries and make little profit when they sell at Farm gate.

Chapter Six

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of the study

This study worked on the effects of IFAD/VCDP on smallholder farmer's productivity and access to their socio-economic wellbeing in Taraba state, Nigeria. The main aim of IFAD/VCDP is to reduce rural poverty and achieve accelerated economic growth. The objective of VCDP is to sustainably enhance rural incomes and food security. The study is based on the Random Utility Model (RUM), which is founded on the assumption that an individual will make a choice that yields the highest utility. We can assume that a farmer would choose from a set of mutually exclusive marketing outlets for his/her rice or cassava. The farmer then obtains a certain level of utility from each alternative outlet chosen. The principle underlying the farmer's choice is that he/she chooses the outcome that maximizes the utility. The farmer will therefore make profit based on the utility achieved by selling rice or cassava to a certain marketing outlet. Multi-stage sampling technique was used. Three LGAs were randomly selected from the 5 LGAs participating in the VCDP/IFAD, after which 133 respondents were selected from Ardokola, 96 respondents from Gassol and 135 respondents from Wukari Local government areas. A total of 364 respondents were used for the study. All the 364 copies of the questionnaire administered were retrieved and used for the data analysis. Data for the study were obtained from primary source using structured questionnaires and also interview guide to conduct in-depth key informant interview. SPSS version 22 IPBM was used for the data entries. Descriptive and inferential statistics such as frequencies, percentages, means and standard deviations were used for data analysis. Paired sample t-Test was also used to compare average monthly income of farmers before and after the intervention.

The age of the respondents showed that the least and highest were 18 years and 67 years respectively, with an average of approximately 39 years. The results also showed that the least and highest observed household sizes were 1 person and 30 persons respectively, with an average household size of 8 persons. Results also revealed a minimum and maximum monthly income of 5,000 (naira) and 500,000 (naira) respectively, with an overall average of approximately 36,000 (naira). The results also revealed that about 36% of the farmers personally owned their farmlands; while about 23% cultivate their crops on rented/leased farmlands; up to 40% indicated their

farmlands were family owned; and lastly, not more than 1% indicated their farmlands were communal owned. Furthermore, the study revealed that about 77% were farmers who were into farm production; about 19% were into processing of farm produce; and, 3% were into marketing of farm produce.

Results also showed that up to 98% of the farmers perceived their production capability has been enhanced since the commencement of the IFAD. About 95% responded said that the support they have had through the IFAD, with regards to their farming inputs, has been adequate. Up to 97% of the farmers stated that the barriers and bottle necks along the value chain has been adequately addressed. About 94% reported they have received improved rice seedlings and cassava cuttings since their participation in the IFAD programme. Approximately, 97% of the interviewed farmers indicated they have experienced increased sales output since they began participating in this program. It was obtained among cassava producers only that the least and highest yield recorded with the cassava cutting varieties used before the IFAD was 1 tonne and 10 tonnes respectively, with an average yield of approximately 3 tonnes for each of the farmers.

It was obtained that about 94% indicated that there has been an improvement in the size/number of landed property they owned since they joined the IFAD programme; up to 92% and 93% also indicated they had experienced improvement in their size and quality of their dwelling unit respectively. About 84% indicated there has been an improvement in their means of transportation, with about 11% stating there has been no change in their transportation means since their participation on the IFAD programme. Not more than 76% indicated they have had improvement on the electrical appliances owned since their participation on the IFAD programme, while 21% indicated they had not experienced a change in the electrical appliances owned. It was also revealed that about 84% stated they have had improvement on their hectare of land under irrigation, while almost 16% indicated there has been no change in that regards. Almost 91% indicated they had experienced improvement in the crops they cultivate, while not more than 8% indicated no change in their cultivated crops, since their commencement on the IFAD programme.

Overall, there has been increase in income and productivity of smallholder farmers benefitting from the value chain development programme. They have also benefitted immensely from various trainings organized by VCDP which has also assisted them in moving from crude method of farming to a mechanized one. However, some of the farmers still require more support to achieve maximal benefit from the value chain programme.

IFAD/VCDP has really helped small holder farmers by giving them incentives, linking them to markets both local and international. IFAD/FGN should bring together all the value chain operators and mediate between its members and financial institution such as the Bank of Industry and Bank of Agriculture. Value chain development should be recommended to other local government areas that are not participants of IFAD/VCDP, and to other parts of the country at large to ensure food security. Inputs supply should be given to farmers on time in order to improve their productivity.

6.2 Conclusion

The research gave me the opportunity to apply my class room knowledge on the field, there was language barrier but, was able to overcome it with the help of an interpreter.

The previous sections presented the effects of IFAD/VCDP on smallholder farmers. The study was carried out in Ardo-Kola ,Gassol and Wukari Local Government Areas of Taraba State.

Based on the findings from this study. It was concluded that the IFAD/VCDP has succeeded in positively improving the productivity and access to the socio-economic well-being of smallholder farmers in Taraba State, Nigeria. There has been increase in income and productivity of smallholder farmers benefitting from the value chain development programme. They have also benefitted immensely from various trainings organized by VCDP which has also assisted them in moving from crude method of farming to a mechanized one. Some of the farmers still require more support to achieve maximal benefit from the value chain programme.

Recommendations given should be implemented in order to have increase in the level of productivity of smallholder farmers. Farmer's cooperatives have helped farmers to be adequately informed about the market forces, by been informed they tend to know their right in order not to be short changed (Adebayo and Olagunju 2015; Gaius 2015).

Conclusively, there is still room for improvement in terms of linking smallholders to financial institutions, access to credit facilities, timely distribution of farm inputs like improved seedlings and cassava cuttings, distribution of fertilizers and herbicides, timely dissemination of information.

6.3 Recommendations

Socio-economic characteristics of Respondents

There should be access to farmland at a subsidized rate. Most of the farmers do not own their own land.

More women should be given the opportunity to participate in the programme, as there are more men than women in the IFAD/VCDP.

Effects of IFAD/VCDP on productivity of the beneficiaries

There has been an increase in the productivity of farmers, however this can be improved by early supply of farm inputs. Linking them to markets, helping them reduce their production cost by giving incentives. This would increase their productivity and make the state food secured.

Financial institutions

The smallholder farmers should be linked with financial institutions in other to have access to credit facilities, this would enable them have enough funds to expand and hire workers to do more work. The effects of this would be increase in productivity. Banks should be situated in each Local Government, this would encourage savings habit among the beneficiaries, which would also enable them to borrow from such banks when the need arises.

Early supply of farm inputs

Farm inputs like certified seeds, power tillers, fertilizers and herbicides should be given to farmers on time, a lot of the farmers complained about late supply of farm inputs.

Exit strategy

The exit strategy should be followed up in other to have a sustainable agricultural practices among smallholder farmers. If the exit strategy is not followed up, the farmers might leave farming for other means of livelihood.

Marketing strategies

Agro industries and farmers cooperatives should do the bulk purchase of farm produce this would exclude the middlemen that interfere with the price of produce

Inclusion of more smallholder farmers in the state

More smallholder farmers should be included in the IFAD/VCDP intervention

Education and sensitization of farmers

Farmers should be educated and sensitized from time to time

Government policies should be favourable to smallholder farmers

For example the ban on the importation of rice has really helped smallholder farmers to have a large market for their produce.

Completion of unfinished projects

Some projects are still on-going for example the cassava processing unit at Koppi, this should be completed on time in other to commence functioning by the cassava processors. There are other social amenities that the beneficiary's lack, like good roads, absence of good roads invariably leads to high cost of transportation and this increases their production cost which in turn is transferred to buyers in terms of high prices of goods.

IFAD/FGN should bring together all the value chain operators and mediate between its members and financial institution such as the Bank of Industry and Bank of Agriculture.

Value chain development should be recommended to other local government areas that are not participants of IFAD/VCDP, and to other parts of the country at large to ensure food security.

6.4 Limitations of the study.

Insecurity in some parts of the research area and language barrier were the limitations encountered. But, we were able to overcome this with the help of the Extension Agents and Liaison officers that know the terrain of the study sites. There was also an interpreter who helped to translate to those that do not Understand English Language.

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APPENDICES

Appendix 1: Questionnaire

THE EFFECTS OF IFAD /VALUE CHAIN DEVELOPMENT PROGRAMME ON SMALLHOLDER FARMERS' PRODUCTIVITY AND ACCESS TO SOCIO - ECONOMIC WELL- BEING IN TARABA STATE, NIGERIA

Dear respondent,

This questionnaire is designed to assess the analysis of International Fund for Agricultural Development (IFAD) value chain development programme on smallholder farmers in Taraba State, Nigeria. The information collected will be treated with confidentiality and the data collected will be anonymised. Thank you for participating in this study.

Section A: Socio-Economic and Demographic Characteristics of Respondents

Serial No.	Variables	Responses	Code
1	Village Saving & Credit Group		
2	Local Government Area		
3	Community/Clusters		
4	Age of respondent (years)		
5	Sex of respondent	Male Female	[1] [2]
6	Marital status	Single/never married Married Separated Divorced Widowed	[1] [2] [3] [4] [5]
7	Household size	Number of people	[ ]
8	Average monthly income	Amount N…….	
9	Highest education level attained	No formal education Primary education Secondary school	[1] [2] [3]

		Arabic/Islamic education Tertiary Other	[4] [5] [6]
10	Farmland ownership	Personal Rented/leased Family owned Communal owned	[1] [2] [3] [4]
11	Farm size (in acres or hectares)	_____	
12	Type of produce planted	Cassava Rice Cassava and Rice	[1] [2] [3]
13	Type of enterprise unit	Production Processing Marketing	[1] [2] [3]
14	Beneficiary of the IFAD Programme?	Yes No	[1] [2]
15	Years of farming experience	_____	
16	Have enough information about the value chain?	Yes No	[1] [2]

Section B: Productivity

1. Has your production capability been enhanced? Yes/No
2. Is the support being given by IFAD in terms of access to inputs adequate? Yes/No
3. Have the barriers and bottlenecks along the value chain been adequately addressed? Yes/No
4. Were you given improved rice/cassava varieties? Yes/No
5. What was your yield using previous rice/cassava variety? _____(ton/ha)

6. What is your current yield using improved variety introduced by VCDP? _____(ton/ha)
7. Has your sales output increased during participating in this program? Yes/No
8. Has your number of customers and buyers increased?
9. Have you been able to reduce number of waste, scraps and rejects in your produce? Yes/No
10. Has your profit increased since your participation in the IFAD programme? Yes/No
11. Have you been able to reduce your production cost since participation in the programme? Yes/No
12. Did you receive NPK fertilizer last year? Yes/No
13. If you did, how many bags (50 kg) did you get? ____ bags last year
14. Did you receive Urea? Yes/No
15. If you did, how many bags (50 kg) did you get? ____ bags last year
16. Did you receive herbicide? Yes/No last year
17. How many liters did you get? _____ liters last year

Section C: Socio-economic Wellbeing

C1. Farmers' Income

Kindly indicate improvement in your income due to your participation in IFAD value chain project

Variable	Response
What was your average monthly income (Farm income) before the intervention	
What is your average monthly income (Farm income) since you started participating in the programme	
Are you impressed or satisfied with the change in income.	

C2. Physical and Financial Assets

Kindly indicate improvement in ownership/access to physical and financial assets as listed in the table below in the previous year that is due to your participation in IFAD value chain project

Variable	Worsened	No change	Improving	Remarks
1. Size/number of landed property owned				
2. Size of dwelling unit				
3. Quality of dwelling unit				
4. Means of transport				
5. Electrical appliances				
6. Hectares of land under irrigation				
7. Hectares under improved management				
8. Crops cultivated				
9. Livestock water points				
10. Harvesting system				
11. Farm machinery				
12. Income				
13. Household savings				
14. Access to credit				
15. Business assets				
18. Profit making				

C3. Access to Social Services

Kindly indicate improvement in factors of assets as listed in the table below in the previous year that is due to your participation in IFAD value chain project

Variable	Worsened	No change	Improving
1. Access to Drinking water			
2. Access to Food market			
3. Household Food security			
4. Access to Primary/Secondary school for your Children			
5. Access to Health services			
6. Ability to afford better and quality healthcare			
7. Means of Information and communication			

C4. **Market Access**

Kindly indicate changes in the following as a result of your participation in IFAD value chain programmes in the previous year

Variable	Worsened	No change	Improved
1. Access to Market infrastructure			
2. Access to Modern Storage facilities			
3. Access to Market stalls and stores			
4. Cost of Transportation			
5. Access to Market information			

6. Ease of Rural-Urban movement(Access Roads)			
7. Change in Food prices			

C5. Equal Opportunities

Please indicate whether you have equal opportunities with respect to access to the following services provided by IFAD value chain programme

Variable	**Yes**	No
1. Improved input supply/Fertiliser ,Herbicides ,Improved seed		
2. Human capital development (Training)		
3. Provision of farm/agricultural implements and machines		
4. Linkage and market information		
5. Provision of financial services		
6. Provision of processing facilities		
7. Dissemination of Improved processing techniques		

Section D: Marketing Strategies

D1. Which marketing strategies do you use to sell your produce?

Variable	**Yes**	No
1. Farm gate		
2. Local market		
3. Agro Industries		
4. Farmers' Cooperatives		

D2. Which of the above strategies have led to improved profits on sales of your produce?

_____

D3. Has IFAD influenced positively the type of marketing strategies you use? Yes [ ], No [ ]

Section E: General Comments

E1: List most important factors limiting impact of the project

i. ……..

ii. ……..

iii. ……

iv. ……

E2: In what way(s) can these constraints be addressed?

i. …….

ii. ……..

iii. ……..

Name of Enumerator:

Date:

Signature:

Thank you

Appendix 2: Pictures

Researcher administering questionnaire to a female farmer at Mayoranewo, Ardo Kola Local Government.

On the field at Ardokola LGA, administering questionnaire to one of the farmers.

Researcher with female farmers at Sunkani after administering questionnaires to them.

Researcher with the State Project Coordinator, Mr Musa Irimiya, my on-site supervisor,Mrs Altine James and other members of the VCDP team

Presentation of the preliminary report