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...Enhancing rice and cassava value chains for sustainable agricultural transformation.



# **EFFECT OF IFAD VALUE CHAIN DEVELOPMENT PROGRAMME ON WELFARE OF SMALLHOLDER RICE AND CASSAVA PRODUCERS IN ANAMBRA STATE, NIGERIA.**

**FINAL REPORT**

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## **Executive Summary**

Anambra State is one of the six (6) States in Nigeria participating in the Value Chain Development Programme (VCDP) implemented by International Fund for Agricultural Development (IFAD) and Federal Government of Nigeria (FGN). The main objective of this study was to determine the effect of VCDP on smallholder producers' welfare (income and other services). The VCDP which is in line with the government's vision for agricultural development, is focusing on supporting cassava and rice smallholder farmers in Anambra State by strengthening farmer organizations through building their capacity to take advantage of existing market opportunities and overcome constraints along the value chain. It was hypothesized that availability of resources and boosting local production of rice and cassava through the VCDP would be very important to improving economic welfare of smallholder farmers.

Primary data were collected through well-structured questionnaires. A total of 358 respondents were randomly sampled and interviewed. Data analysis involved the use of descriptive statistics (means and frequencies) and inferential statistics (analysis of variance).

The results showed that VCDP has significantly led to the improvement of economic welfare of smallholder rice and cassava farmers in Anambra State. The State contributed to the level self-sufficiency in rice production and economic diversification policy of the Federal Government of Nigeria.

The study also found improvements in various aspects of farmers' welfare such as productivity growth, income, physical and financial assets, and access to market and social services since their involvement in VCDP. Recommendations focused on the strategies for improvements of the VCDP in Anambra State, Nigeria.

**Key Words:** Value Chain, Productivity, Self-sufficiency, Economic welfare.

## **ACRONYMS**

ADPs - Agricultural development programmes

ANSVCDP - Anambra State Value Chain Development Programme

ATA - Agricultural Transformation Agenda

CESDEV - Centre for Sustainable Development

COSOP - Country Strategic Opportunities Programme

CPE - Country Programme Evaluation

FGD - Focus Group Discussion

FGN - Federal Government of Nigeria

FMARD - Federal Ministry of Agriculture and Rural Development

FOs- Farmer Organizations

IFAD- International Fund for Agricultural Development

LGAs- Local Government Areas

NAIP - National Agricultural Investment Plan

NBS - National Bureau of Statistics

SDGs – Sustainable Development Goals

SPSS - Statistical Package for Social Sciences

UNs- United Nations

VCDP- Value Chain Development Programme



## CHAPTER ONE: INTRODUCTION

### 1.1 Background to the Study

#### 1.1.1 International Fund for Agricultural Development

The International Fund for Agricultural Development (IFAD) is a specialized agency of the United Nations (UNs), which was established as an international financial institution in 1977 as one of the major outcomes of the 1974 World Food Conference. It resolved that "an International Fund for Agricultural Development should be established immediately to finance agricultural development projects primarily for food production in the developing countries." One of the most important insights emerging from the conference was that the causes of food insecurity and famine were not so much failures in food production but structural problems relating to poverty, and to the fact that the majority of the developing world's poor populations were concentrated in rural areas.

IFAD is dedicated to eradicating rural poverty in developing countries. Seventy-five per cent of the world's poorest people - 1.4 billion women, children and men - live in rural areas and depend on agriculture and related activities for their livelihoods. Working with poor rural people, governments, donors, non-governmental organizations and many other partners, IFAD focuses on country-specific solutions, which can involve increasing poor rural people's access to financial services, markets, technology, land and other natural resources.

#### 1.1.2 IFAD Strategic Framework for 2016-2025

IFAD activities are guided by its Strategic Framework on enabling poor rural people to improve their food security and nutrition, raise their incomes and strengthen their resilience. Agenda 2030 offers clear evidence that IFAD mandate of investing in rural people and enabling inclusive and sustainable transformation of rural areas, notably through smallholder agriculture-led growth, is of absolute global relevance today and over the coming decade.

After several years of growth and reform, IFAD is recognized for its experience, knowledge and performance in this domain; it stands ready to achieve greater impact and it is well positioned to play a larger role in helping countries fulfil their priorities relative to Agenda 2030.

For it to do so, it needs to work in a way that is bigger, better and smarter:

**Bigger:** by mobilizing substantially more funds and resources for investment in rural areas;

**Better:** by strengthening the quality of IFAD's country programmes through innovation, knowledge-sharing, partnerships and policy engagement; and

**Smarter:** by delivering development results in a cost-effective way that best responds to partner countries' evolving needs.

## **Goal**

IFAD goal is to empower poor rural women and men in developing countries to achieve higher incomes and improved food security.

## **Objectives**

IFAD will ensure that poor rural people have better access to, and the skills and organization they need to take advantage of:

- i. Natural resources, especially secure access to land and water, and improved natural resource management and conservation practices
- ii. Improved agricultural technologies and effective production services
- iii. A broad range of financial services
- iv. Transparent and competitive markets for agricultural inputs and produce
- v. Opportunities for rural off-farm employment and enterprise development
- vi. Local and national policy and programming processes

All of IFAD decisions - on regional, country and thematic strategies, poverty reduction strategies, policy dialogue and development partners - are made with these principles and objectives in mind. As reflected in the Strategic Framework, IFAD is committed to achieving the Sustainable Development Goals.

## **Partnership**

Through low-interest loans and grants, IFAD works with governments to develop and finance programmes and projects that enable rural poor people to overcome poverty. Since starting operations in 1978, IFAD has invested US\$14.8 billion in over 900 projects and programmes that have reached some 400 million poor rural people. Governments and other financing sources in recipient countries, including project participants, contributed US\$12.2 billion, and multilateral,

bilateral and other donors provided approximately another US\$9.6 billion in co-financing. This represents a total investment of about US\$21.8 billion.

IFAD tackles poverty not only as a lender but also as an advocate for rural poor people. Its multilateral base provides a natural global platform to discuss important policy issues that influence the lives of rural poor people, and to draw attention to the central role of rural development in meeting the Sustainable Development Goals (SDGs).

### **1.1.3 IFAD in Nigeria**

The Value Chain Development Programme of IFAD in Nigeria 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.

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. The target groups include 15,000 smallholder farming households, 1,680 processors and 800 traders.

Specifically, the programme focuses on:

- Developing agricultural markets and increasing market access for smallholder farmers and small to medium-scale agro-processors
- Enhancing smallholder productivity and thus increasing the volume and quality of marketable produce by strengthening farmers' organizations as well as supporting smallholder production.

IFAD's support to the Nigerian Government's poverty reduction programme in rural areas targets large numbers of smallholder farmers and is essentially people-centered. IFAD supports

programmes and projects that work with communities, with smallholder farmers as the key players.

The Value Chain Development Programme (VCDP) emerged from the IFAD Country Strategic Opportunities Programme (COSOP) covering the 2010-2015 period. This COSOP built on the recommendations of the Country Programme Evaluation (CPE) carried out in 2008/2009 April 2009 by the Federal Government of Nigeria (FGN) and IFAD. The CPE recommended focusing on future IFAD interventions on agriculture, with emphasis on enhancing productivity and access to market.

The VCDP design is consistent with the CPE recommendations and builds on ongoing value chain (VC) interventions supported by Government, development partners (DPs) and the private sector in Nigeria. The VCDP is fully aligned with the National Agricultural and Food Security Strategy, the National Policy on Integrated Rural Development/Rural Development Sector Strategy and the National Agricultural Investment Plan (NAIP) of the Government of Nigeria.

The programme is consistent with the Agricultural Transformation Agenda (ATA), the vision for agricultural development set by the new Government, to develop the agricultural sector through a commodity value chain approach. In line with the ongoing COSOP, the programme will target two of the priority commodities identified in the ATA, cassava and rice, to take advantage of existing market opportunities and address the constraints along the value chain. Based on the CPE recommendation, the programme will focus its intervention on six out of the country's 36 states for enhanced impact and learning towards possible up scaling.

The objectives are to empower poor rural people, especially women, by increasing their access to resources, infrastructure and services; and to promote the management of land, water and common property by local communities, helping to overcome environmental degradation. IFAD-supported programmes and projects address issues such as erosion and the loss of soil fertility, as well as coastal zone natural resource management.

Since 1985, IFAD has financed nine programmes and projects in Nigeria, with a total loan commitment of over US\$232.2 million. The country currently attracts over 40 per cent of the financial resources that IFAD allocates to Western and Central Africa. All programmes and

projects have addressed the livelihood needs of poor rural people, including; smallholders, women, small business owners, poor fishing communities, young people and landless people.

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.

## **1.2 Problem Statement**

Nigeria accounts for approximately one sixth of the African population. 50% of the citizens are urban dwellers and at least 24 cities have populations of more than 100,000. Agriculture is a very important sector of the Nigeria economy, employing about 70% of the total active labour force and contributing about 42% of Gross Domestic Product (GDP) (Ajibefun, 2004). Nigeria farmers have been described as been very poor with low income, especially in the rural area where the farmers are facing low agricultural production (Ijere, 1992). For this reason, they are unable to provide enough funds for agricultural activities. Welfare though not observable could be said to represent the people's standard of living. In theory, household's consumption expenditure on food and education is used as proxy for welfare indicators (Quartey, 2005). Large household size contribute to poor productivity, affecting farmers welfare status, reduces income generation of a household, and reduces the level of development of household. Many households in Nigeria especially in rural areas which cannot afford to purchase necessary farm inputs or implement such as fertilizers, pesticides and improved seeds, which bring about increases in productivity and hence, increases households income and which will proactively affect the socio-economic wellbeing of household positively ( Ukoha et al. ,2007). A large number of farmers in Nigeria, both in rural and urban areas operate at the subsistence level and small scale business.

Farmers could expand their profits from potential markets if solutions were found for value chain issues such as:

1. Poor quality of seeds and varieties inappropriate for the various uses.
2. Poor quality of product at harvest, with grains of inconsistent size and coloration.

3. Inadequate threshing techniques and post-harvest drying and storage, which reduce quantity and market quality.
4. Inadequate grading.
5. Insufficient market development and communication with markets regarding varieties and quality of sorghum desired.
6. Insufficient training and finance for improved post-harvest management.

### **1.3 Justification of the Study**

IFAD's support to the Nigerian Government's poverty reduction programme in rural areas targets large numbers of smallholder farmers. Smallholder farmers – cultivating less than five hectares of land – produce about 90 per cent of the total national output. While the country has seen growth over the past five years, rural poverty remains prevalent with two-thirds of the rural population living at or below the poverty line. The country spends about US\$3 billion a year on rice imports.

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.

One of the major problems faced by most funded agricultural 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. Food insecurity still remains a general problem despite numerous agricultural programmes.

In light with the aforementioned, an investigation to assess if the IFAD value chain development programme is indeed improving on the welfare of smallholder farmers in the state is therefore necessary.

### **1.4 Research Questions**

The study provides answers to the following research questions:

1. What are the socio-demographic characteristics of the beneficiaries?
2. What is the productivity level of the beneficiaries?

3. Have there been improvements in the level of income and the physical and financial assets of the beneficiaries?
4. Have there been improvements in the beneficiaries' access to market and social services of the beneficiaries?
5. What is the level of empowerment of the beneficiaries?

### 1.5 Objectives of Study

The major objective of the study is to determine the effect of the IFAD-VCDP on the general standards of living of smallholder farmers in Anambra State. The study will specifically:

1. Evaluate the productivity level of beneficiaries.
2. Assess level of income and the physical and financial assets of beneficiaries.
3. Evaluate beneficiaries' access to market and social services.
4. Determine the level of empowerment of beneficiaries.

#### 1.5.1 Analysis of the objectives of study

S/N	Objectives	Data Collection	Data Required	Analytic Technique
1	To evaluate the productivity level of beneficiaries	Use of structured questionnaires and interviews, project data	Information on inputs (land area cultivated, fertilizer use, etc.), outputs (crop production in kg), and labour	Frequencies, percentages, charts, cross tabulation and correlation test
2	To assess the level of income and physical and financial assets of beneficiaries	Use of structured questionnaires and interviews	Information on income, physical and financial assets	Frequencies and percentages, chi square.
3	To evaluate beneficiaries' access to market and social services	Use of structured questionnaires and	Information on access to social	Frequencies, percentages, charts,

		focus group discussions	services	cross tabulation, ranking index
4	To determine the level of empowerment of beneficiaries	Use of structured questionnaires	Empowerment domains (production, resource, income, time leadership)	Descriptive statistics (frequency count, tables and charts) and Women Empowerment in Agriculture Index (WEAI)

### 1.6 Research Hypothesis

In order to achieve the objectives of the study, the following hypotheses were tested.

- i. Ho1: There is no significant difference in the productivity of the beneficiaries before and during the value chain development programme.
- ii. Ho1: There is no significant difference in the level of income the beneficiaries before and during the value chain development programme.

### 1.7 Definition of Concepts

**Value Chain:** According to GTZ (German agency for Technical Cooperation) 2008, a value chain is an economic system around a particular commercial product with focus on the addition of value along a sequence of activities of providing inputs, producing, transforming, marketing and consumption, its focus could also be on the degree of coordination and collaboration between value chain operators or enterprises, or the business model for a particular commercial product.

**Welfare:** According to Business Dictionary, welfare is the availability of resources and presence of conditions required for comfortable, healthy and secure living.



## **1.8 Limitations of the study**

The research was conducted with substantial cooperation of the respondents owing to the fact that they were beneficiaries of the programme but the language barrier was significant. It was overcome with the use of interpreters. Enumerators' integrity was a challenge that was overcome with the daily review of respondents' feedbacks.

## **CHAPTER TWO: THEORETICAL FRAMEWORK AND LITERATURE REVIEW**

### **2.1 Theoretical and Conceptual Review**

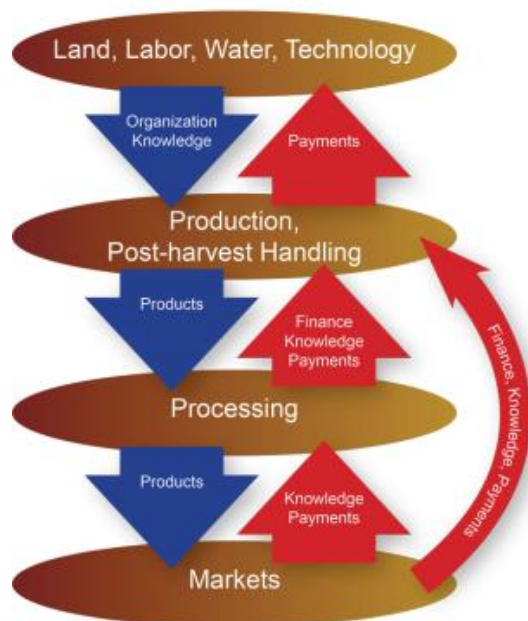
A value chain is a set of linked activities that work to add value to a product; it consists of actors and actions that improve a product while linking commodity producers to processors and markets. Value chains work best when their actors cooperate to produce higher-quality products and generate more income for all participants along the chain, as opposed to the simplest kinds of value chains, in which producers and buyers exchange only price information — often in an adversarial mode.

A value chain encompasses the flow of products, knowledge and information, finance, payments, and the social capital needed to organize producers and communities. Information is especially important to all value chain actors and flows in two directions: markets inform producers of price, quantity and quality needs, product handling and technology options, while producers inform processors and markets on production quantities, locations, timing and production issues. In a value chain, processors and marketing agents may provide producers with finance, inputs and training in technologies of production.

Value chains may include a wide range of activities, and an agricultural value chain might include: development and dissemination of plant and animal genetic material, input supply, farmer organization, farm production, post-harvest handling, processing, provision of technologies of production and handling, grading criteria and facilities, cooling and packing technologies, post-harvest local processing, industrial processing, storage, transport, finance, and feedback from markets.

A value chain approach in agricultural development helps identify weak points in the chain and actions to add more value. Finding ways to improve value chains can be very important for raising smallholders' incomes. Without being linked into markets they are condemned to produce only for subsistence — better markets can lift them out of poverty.

Figure 1: Value Chain Overview



## 2.2 Empirical Review

Welfare (a state of well-being), is defined in terms of the level of utility reached by a given individual. This level is a function of goods and services that he or she consumes. This is “welfarist” approach to wellbeing, as greater importance is attached to the individual’s perception of what is considered useful to him or her. In particular, planners generally favour adequate food, improved access to education, health care, housing, clean water etc (Ravallion, 2000). According to Ukoha et al., (2007) the central objective of rural development involves raising income and outputs as well as existing assets in order to improve the welfare of rural people in totality. Determinant of households welfare programme is aimed to give a base level of income of people who are financially crippled in order to make provision for itself, the idea is that, both rural and urban households needs capital to increase in their productivity /production

ratio, in order to reduce poverty and low welfare status of households to a maximum level in the society. Quartey (2005) found that, physical asset endowment influence households welfare. Physical asset variables identified include land, livestock, farm equipment and non-farm assets. There are some empirical studies identifying the factors which explain welfare existence of households. For example, Adams and Paje (2003), suggest that micro credit has significance positive impact on welfare, production, income equality and poverty alleviation. Kabber (2001) noted that, positive impact of micro credit goes beyond economic empowerment dimension, using the impact assessment criteria; they concluded that, micro credit had positive impact on the recipient assets, ownership, political awareness and joint decision making. Conclusively, earlier studies on welfare have identified micro credit, human assets, household income and household scale of business as factors which explain households' welfare (Ukoha et al, 2007). Olaniyan (2000) in a study on Nigeria found that human capital endowments were significant determinants of the probability of a rural household being poor.

Integration of small scale producers into market is constrained by a host of factors: small size, limited access to resources, information, skills, technology and access to other business services. Integration of small scale producers into high value market is a topic of current interest. Value chain approach is widely used as a tool to facilitate this process of market integration. Unlike the traditional approaches to enterprise development, the value chain development emphasizes on facilitating market linkages, developing business services market and improving the environment in which enterprises operate.

### **2.3 Review of Value Chain Development Programme, Anambra State, Nigeria**

The IFAD VCDP in Anambra state is co-financed by the Federal Government of Nigeria, the Anambra State Government (ANSG), the five participating Local Government Councils and the Communities/Commodity Interest Groups (CIGs).

The target groups selected for value addition program are categorized into two;

#### **Primary target group**

- i. Poor rural households engaged in cassava and rice value chain (not more than 5ha).
- ii. Small scale processors (processing capacity of 2mt/day for cassava and 4mt/day for rice).

- iii. Marketers (with reasonable volume of produce) with emphasis on women and youths.

### **Secondary target group**

- i. Downstream operators linked to large number of primary target group.
- ii. Local government councils
- iii. Communities strengthened to sustainably manage marketing infrastructure supported by the program
- iv. Private sector operators strengthened to provide quality services.

Anambra state VCDP focuses on three dimensions:

1. Agricultural market development
2. Smallholders enhancement and Productivity: Sensitizations are organized for stakeholders and farmer organizations across Local government areas
3. Programme Management and coordination

Anambra State VCDP promotes two commodities; rice and cassava through farmer organizations (Producers, processors and marketers). The participating LGAs in Anambra state include: Anambra East, Anambra West & Ayamelum (first tier began 2014- 2015); and in 2016 Orumba North and Awka North were included.

According to International Fund for Agricultural Development, 2013, Global agriculture needs to meet estimated 60 per cent increase in demand for food by 2050 while addressing the challenges presented by climate change and natural resource degradation. Africa's capacity in rice and cassava research is very limited and mainly conducted by national research institutes, universities and international research institutes. The general disinterest in agriculture in the 1990s has led to a desperate lack of capacity at all levels in the rice and cassava value chain and gross neglect of Africa's agricultural research and extension capacity, which jeopardizes progress toward developing Africa's agricultural sector. Given these realities, it is clear that it is imperative to invest in the next generation of farmers.

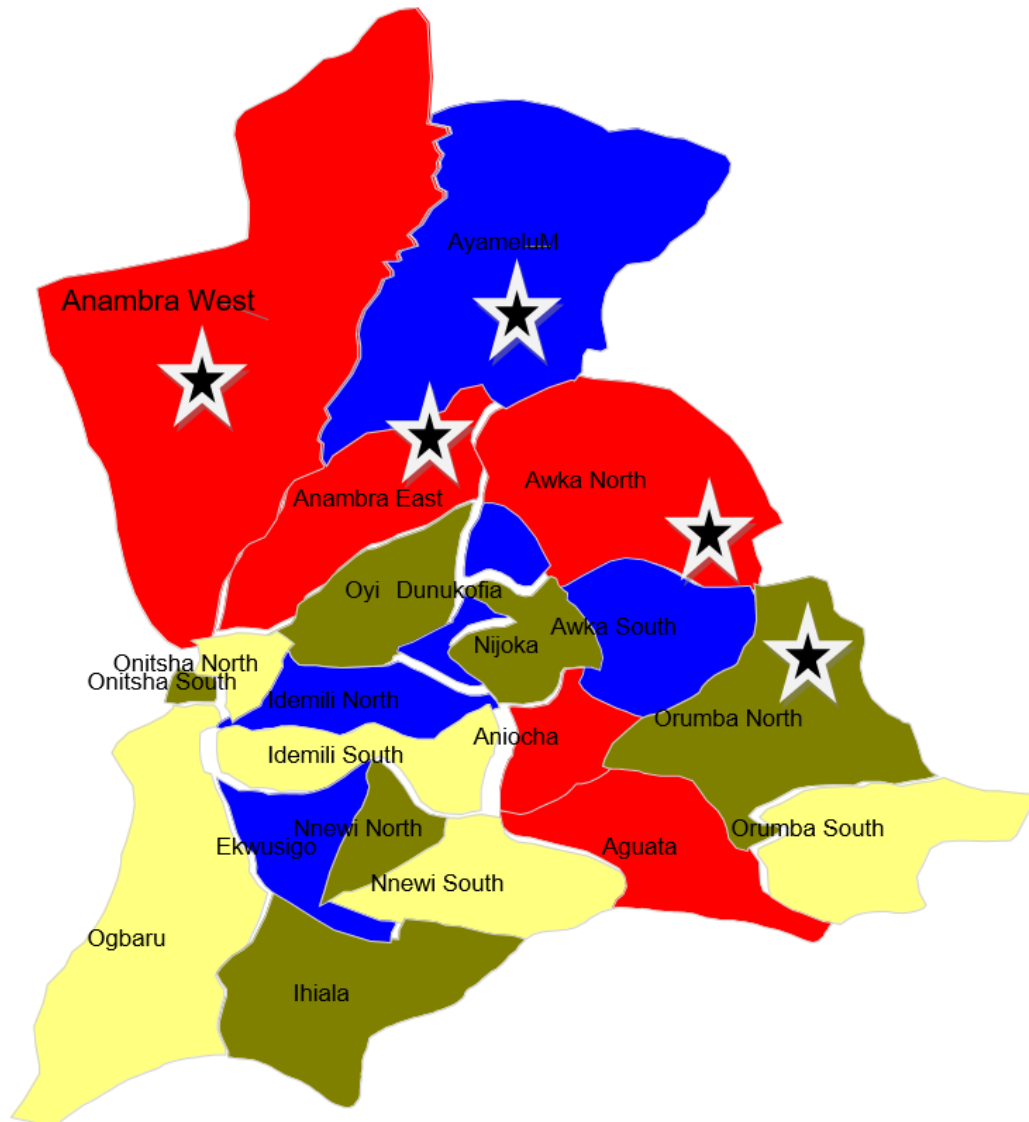
## CHAPTER THREE: METHODOLOGY

### 3.1 Research Study Area

*Figure 2: Map of Nigeria showing Anambra State*



Figure 3: Map of Anambra State showing study sites



### 3.2 Nature and Sources of Data Collection

The study adopted the use of both primary and secondary data. Primary data was collected through the use of questionnaire administration, key informant (KI) interviews, focus group discussion (FGDs), as well as Observations via field visits to some local government areas

participating in Value Chain Development Programme in Anambra State, Nigeria. Secondary data were obtained through the review of baseline study, journals, reports, publications on research works, newsletters, internet and books.

Prior to the commencement of data collection, the researcher met with the enumerators to train them on the importance of the research objectives and explanation of research questions. A pretest was carried out in Orumba North LGA, after which the questionnaire was reviewed and corrected. Meetings were held with the farmer groups to elicit information. Focus group discussion and key informant interview were also conducted by the researcher with the assistance of experienced interpreters.

### 3.3 Method Data Collection

Multi staged sampling technique was adopted. 3 LGAs were randomly selected from the 5 LGAs participating in the Value Chain Development Program (2 from the first tier LGAs and 1 from the second tier). The sample size was calculated in proportion to the number of beneficiaries in each location using sample size calculator with 95 percent confidence level. A total of 358 respondents were used for the study (264 rice farmers and 94 cassava farmers).

*Table 1: Sample Frame for the Local Government Areas*

<b>LGA</b>	<b>Rice</b>	<b>Cassava</b>	<b>Total</b>
Ayamelum	175	07	182
Anambra East	28	57	85
Awka North	61	30	91
<b>Total</b>	<b>264</b>	<b>94</b>	<b>358</b>

### 3.4 Analytical Methods

Data collected was coded and analyzed using Statistical Package for Social Sciences (SPSS) using descriptive statistics in form of percentages, frequencies, mean scores, standard deviation and cross tabulation. Percentages were specifically used to (present information in tables and figures) analyze the demographic characteristics of the respondents, improvements in income,

physical and financial assets, access to market and social services and the empowerment index of the beneficiaries while mean scores were used to analyze the productivity of the respondents.

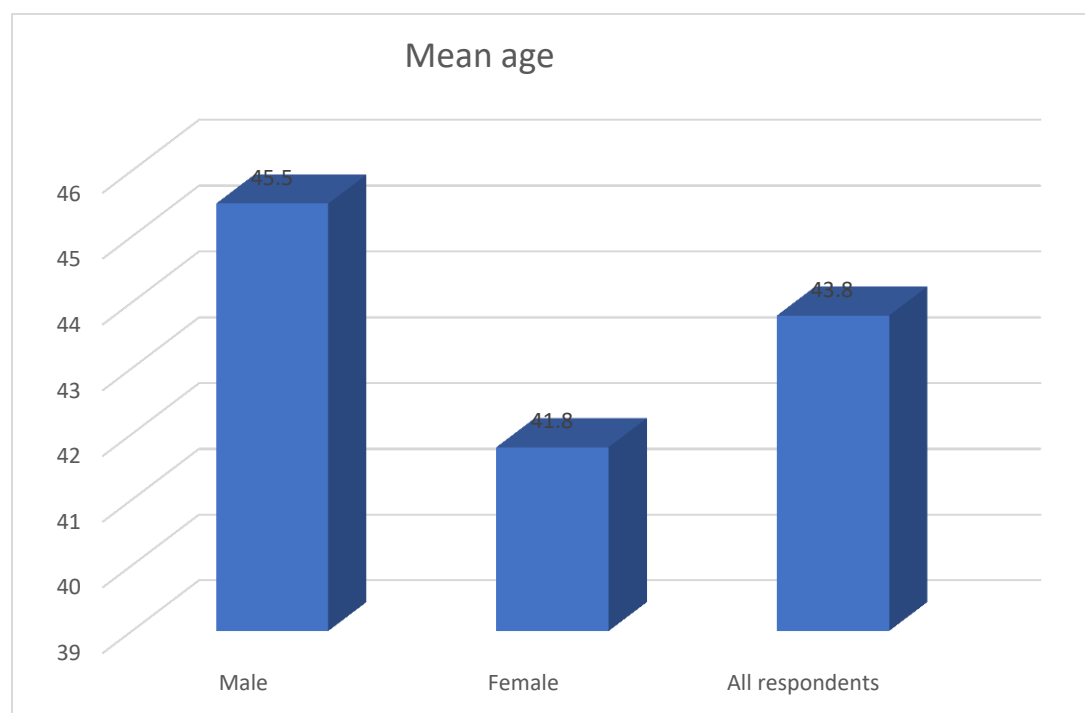
## CHAPTER FOUR: RESULTS AND DISCUSSION

### 4.1 Socio-economic characteristics of the respondents

#### 4.1.1 Mean Age

Figure 4 shows the mean ages of the respondents. Male respondents range between ages 25 years to 70 years and the mean age is 45.5 years while female respondents ranges between 25 years to 69 years and the mean age is 41.8 years. The mean age of all respondents is 43.8 years which implies that the respondents were in the active and productive age range. Age has been found to determine how active and productive the individual would be, which implies that majority of the beneficiaries in the studied area are energetic and still able to do manual work and it can be concluded that the beneficiaries are in their “working age” and as such the likelihood of moving out of poverty and food insecurity is high.

*Figure 4: Mean age of respondents*



**Fig 4: Source: Field survey 2018**



#### 4.1.2: Gender of respondents

Table 2 shows that 53.9% of the beneficiaries are Male while 46.1% of the beneficiaries are Female. This shows that the VCDP is female gender inclusive. More female participation in Agriculture have been encouraged. One of the main focus of VCDP is to empower poor rural people, especially women in all steps of the value chain.

*Table 2: Gender of respondents*

	Frequency	Percentage
Male	193	53.9
Female	165	46.1
Total	358	100

**Table 2 Source: Field Survey 2018**

#### 4.1.3 Marital Status of the respondents

Figure 5 reveals that 5% of beneficiaries were single/never married as at the time of survey. 88.5% of beneficiaries are married, 1.1% of beneficiaries had separated from their spouses, 0.3% of beneficiaries are divorced, and 5% of beneficiaries are widowed. There is very low record of divorced and separated beneficiaries which buttresses the point that marriage, in the African culture is a hallmark of responsibility and also that the various religious faiths adduced to the fact that Marriage is the foundation for household development.

Figure 5: Marital Status of the respondents

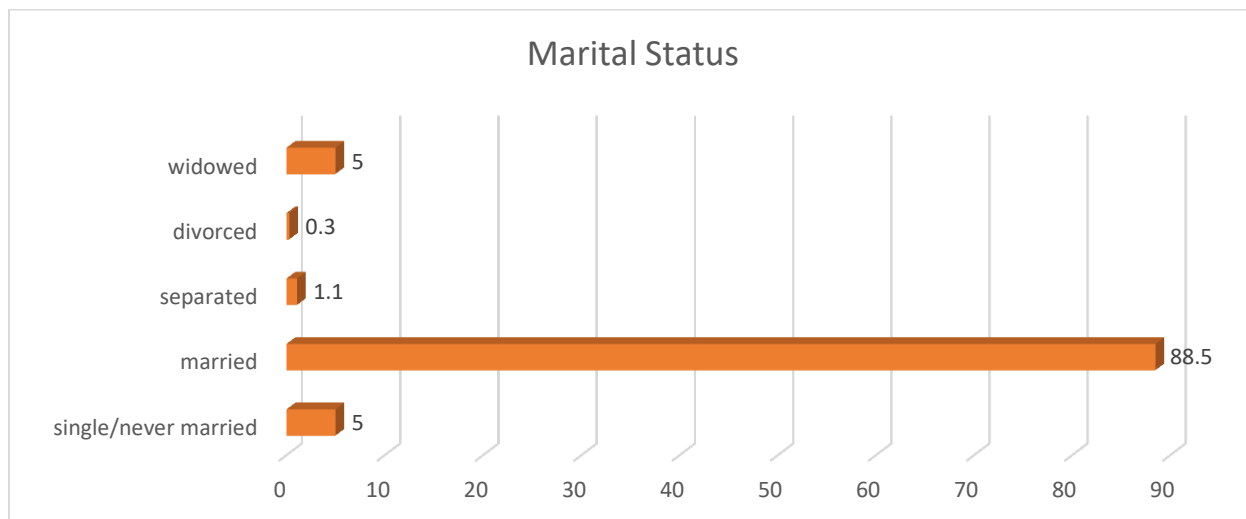


Fig 5 Source: Field survey 2018

#### 4.1.4 Level of education of respondents

Table 3 reveals that most of the respondents have completed primary (30.7%) and secondary (49.4%) school education while 13.4% of the respondents had completed tertiary education. Only 6.4% of respondents have no formal education.

The level of education plays significant role in agricultural growth and the studied area indicates a high literacy level among respondents. The level of education could determine the level of opportunities available to enhance food security and reduce the level of poverty.

Education opens the mind of the farmer to knowledge. High education status of farmers will enable them acquire knowledge and skills, adopt new inputs such as high-yielding varieties, chemical fertilizers, pesticides and also embrace extension services. VCDP therefore, is a programme that is relevant to the targeted rural farmers.

Table 3: Level of education of respondents

Highest education level attained	Frequency	Percentage
No formal education	23	6.4
Primary education	110	30.7
Secondary	177	49.4

education

Tertiary education	48	13.4
Total	358	100

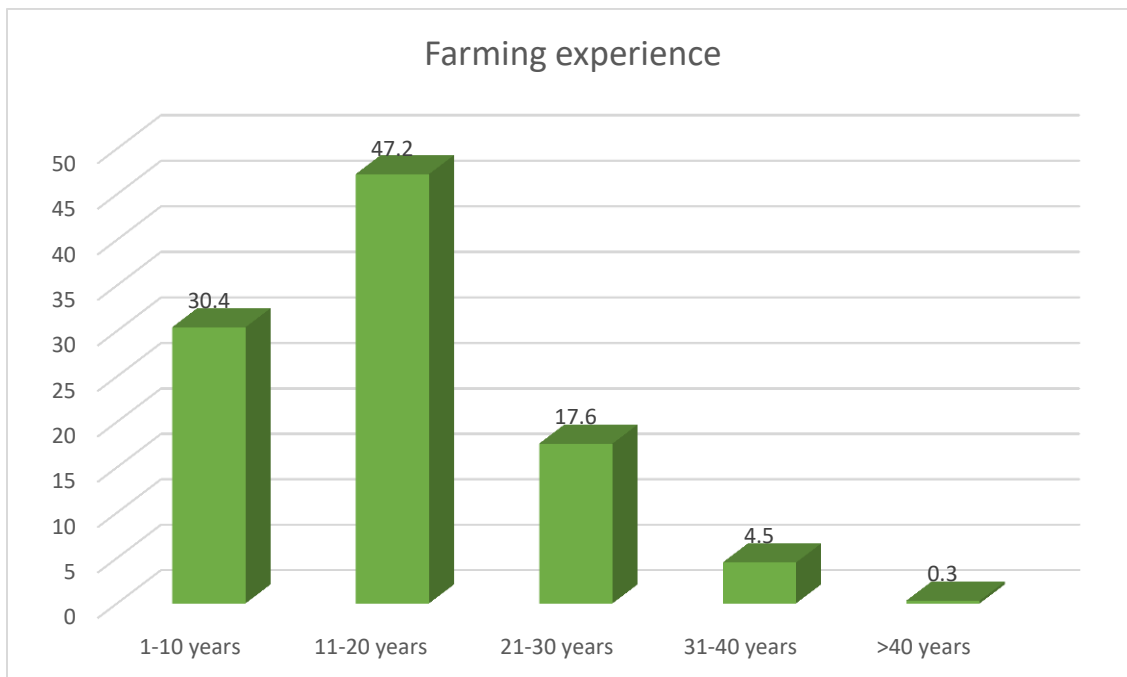
**Table 3 Source: Field Survey 2018**

#### 4.1.5 Farming experience of respondents

Figure 6 shows that 30.4% of the respondents have between 1-10 years of farming experience, majority (47.2%) of the respondents have between 11-20 years of farming experience, 17.6% of the respondents have between 21-30 years of farming experience, 4.5% of the respondents have between 31-40 years of farming experience and 0.3% of the respondents have more than 40 years of farming experience.

Farming experience is important to farmers' efficiency, successful succession planning and even for the competitiveness of the nation's farmers.

*Figure 6: Farming experience of respondents*



**Fig 6 Source: Field Survey 2018**

## **4.2 Productivity level of beneficiaries**

### **4.2.1 Access to Inputs**

Figure 7 shows that 100% of rice producers have access to improved seed variety and 100% of cassava producers have access to improved stem variety. All the respondents (rice and cassava) also have access to fertilizers. 80.6% of rice producers have access to pesticides while 47.8% of cassava producers have access to pesticides. 99.2% of rice producers have access to herbicides while 100% of cassava producers have access to herbicides. 76.5% of rice producers have access to farm machinery while only 27.6% of cassava producers have access to machinery.

Biological inputs such as seeds/stems, fertilizers, pesticides and herbicides and mechanical inputs of farm machinery and implements are very important to productivity. Low record in farm machinery for cassava producers is due to the fact that most of them still use labour for most of their farming activities.

Figure 7: Access to Inputs

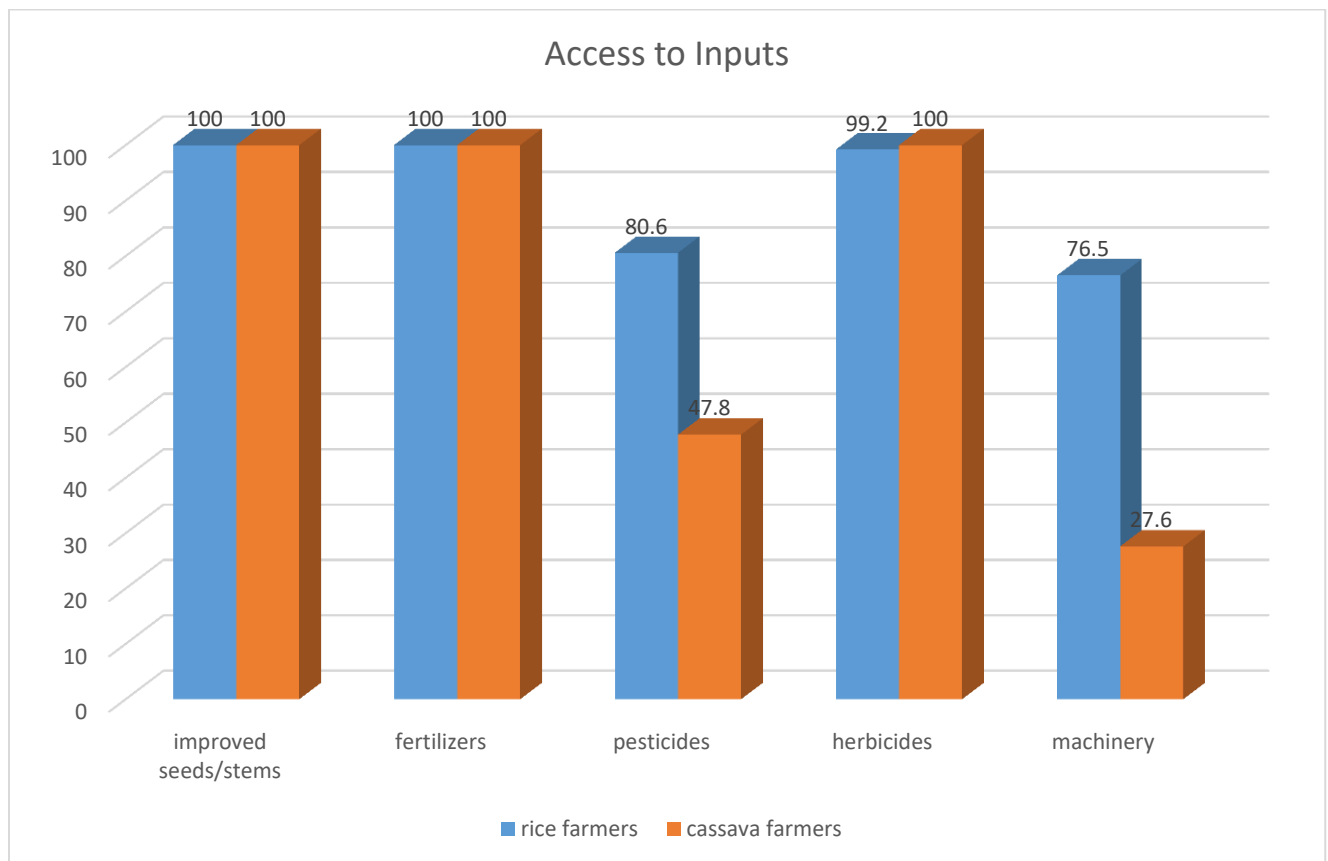


Fig 7 Source: Field Survey 2018

#### 4.2.2 Source of improved seeds/stems and fertilizers

Figure 8 shows that 0.8% of rice producers get their improved seeds from commercial input suppliers, 6% get theirs from fellow farmers and 93.2% get their improved seeds from service providers (VCDP).

19.3% of rice producers get their fertilizers from commercial input suppliers, 1.5% get theirs from fellow farmers and 79.2% get their fertilizers from service providers (VCDP).

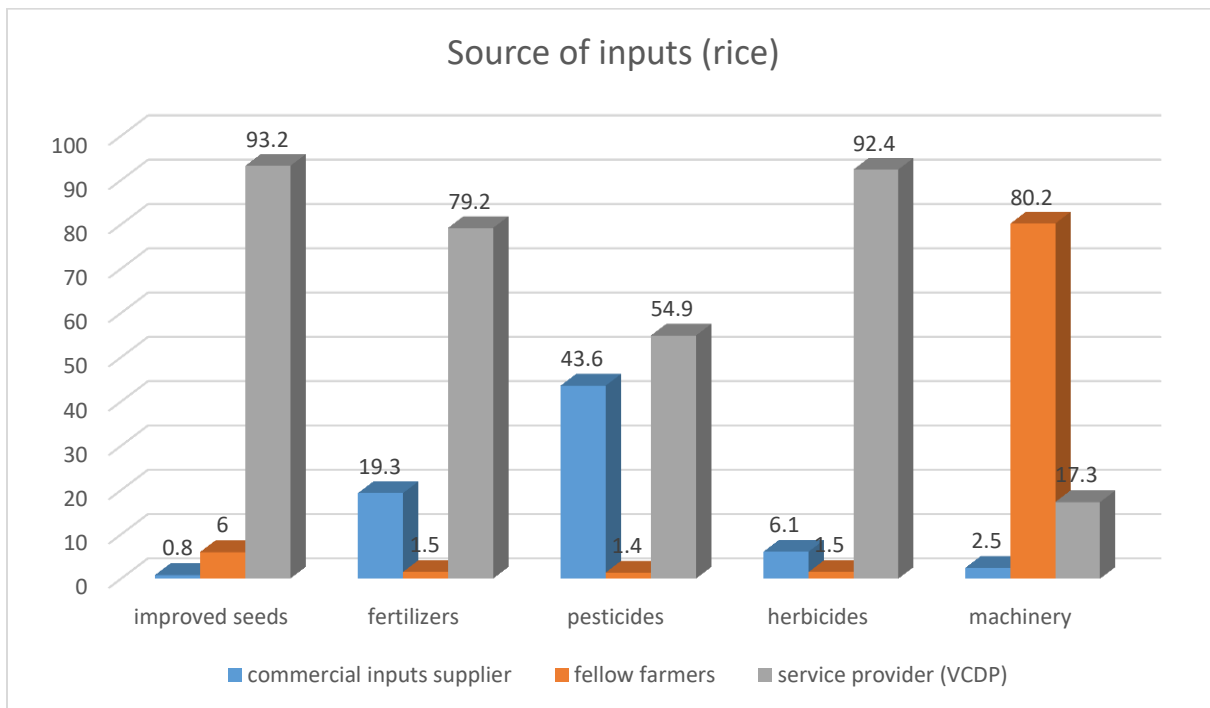
43.6% of rice producers that used pesticides got it from commercial input suppliers, 1.4% get theirs from fellow farmers and 54.9% get their pesticides from service providers (VCDP).

6.1% of rice producers that accessed herbicides got their herbicides from commercial input suppliers, 1.5% get theirs from fellow farmers and 92.4% get their herbicides from service providers (VCDP).

2.5% of rice producers that used farm machinery got them from commercial input suppliers, 80.2% get theirs from fellow farmers and 17.3% get their machinery from service providers (VCDP).

Farmers pay only 50% of retail price for inputs sourced from VCDP and this helps lower their production cost. Most of the rice farmers got their inputs from the VCDP except machinery where 80.2% got from fellow farmers.

*Figure 8: Source of inputs (rice)*



**Fig 8 Source: Field Survey 2018**

Figure 9 shows that 4.3% of cassava producers got their improved stems from commercial input suppliers, 10.6% got theirs from fellow farmers and 85.1% got their improved stems from service providers (VCDP).

9.6% of cassava producers got their fertilizers from commercial input suppliers, 2.1% got theirs from fellow farmers and 88.3% got their fertilizers from service providers (VCDP).

17.7% of cassava producers that used pesticides got it from commercial input suppliers, 13.3% get theirs from fellow farmers and 68.9% get their pesticides from service providers (VCDP).

13.8% of cassava producers got their herbicides from commercial input suppliers, 6.4% got theirs from fellow farmers and 79.8% got their herbicides from service providers (VCDP).

26.9% of cassava producers that used farm machinery got them from commercial input suppliers, 15.4% get theirs from fellow farmers and 57.7% get their machinery from service providers (VCDP).

Farmers pay only 50% of retail price for inputs sourced from VCDP and this helps lower their production cost. Majority of the cassava farmers got their inputs from the VCDP. VCDP therefore, is a programme that is relevant to the targeted rural farmers.

Figure 9: Source of inputs (cassava)

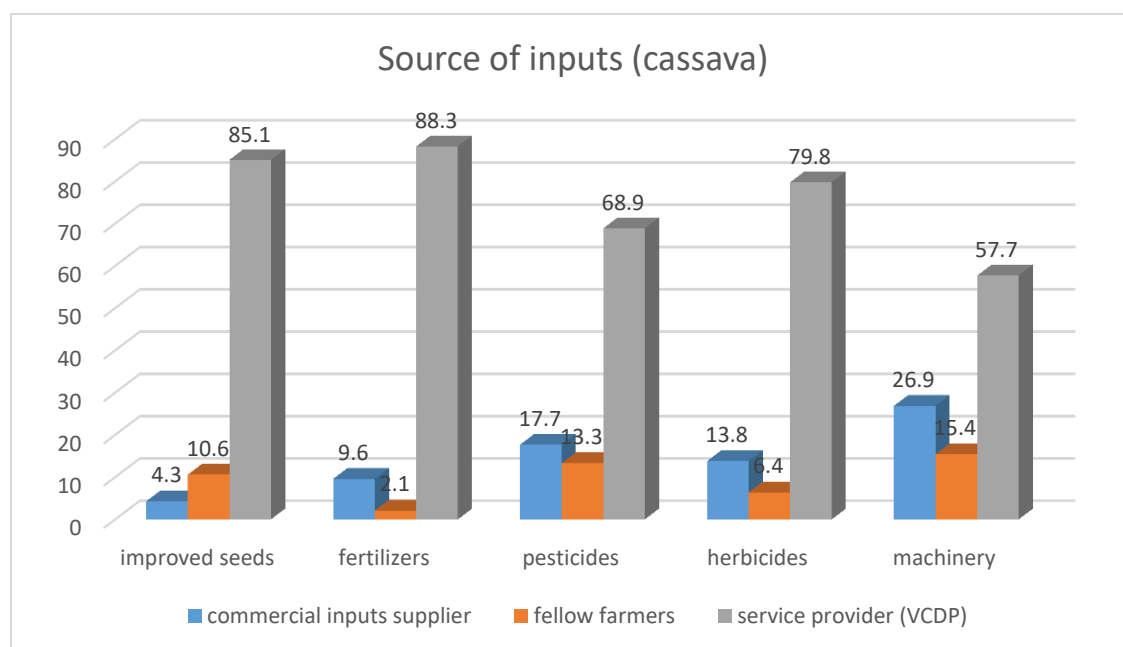


Fig 9 Source: Field Survey 2018

#### 4.2.3 Average Input Quantity

Table 4 shows that the average land for rice cultivated by the respondents before VCDP was 1.4 hectares while an average of 2.7 hectares was cultivated last year. The average land for cassava cultivated by farmers before VCDP was 0.7 hectares while 1.7 hectares was cultivated last year.

Fertilizer use had increased from 4bags (200kg) to 10.7bags (534kg). Pesticides and herbicides use had increase from 0.9litres to 2.3litres and 4.1litres to 9.7litres respectively. Labour (in man days) had increased from 20.4 to 25.9.

These improvements are due to the subsidized rates for inputs provided by VCDP.

*Table 4: Average Input Quantity*

<b>Inputs</b>	<b>Average Quantity (before VCDP)</b>	<b>Average Quantity (Last year)</b>
Land Cultivated Rice(ha)	1.4	2.7
Land Cultivated Cassava(ha)	0.7	1.7
Fertilizers used (bags)	4	10.7
Pesticides used (ltrs)	0.9	2.3
Herbicides used (ltrs)	4.1	9.7
Labour (in man days)	20.4	25.9

**Table 4 Source: Field Survey 2018**

#### 4.2.4 Yield

Figure 10 shows the increase in rice and cassava yield after VCDP intervention. Before VCDP, the average rice yield was 2.9 tonnes per hectare and last year, the average rice yield was 5.1 tonnes per hectare while the average cassava yield before VCDP was 9.3 tonnes per hectare and 17.3 tonnes per hectare last year.

These improvements are due to the farmers' access to subsidized inputs from VCDP such as improved seeds/stems, fertilizers, herbicides, pesticides and also extension services.



Figure 10: Yield

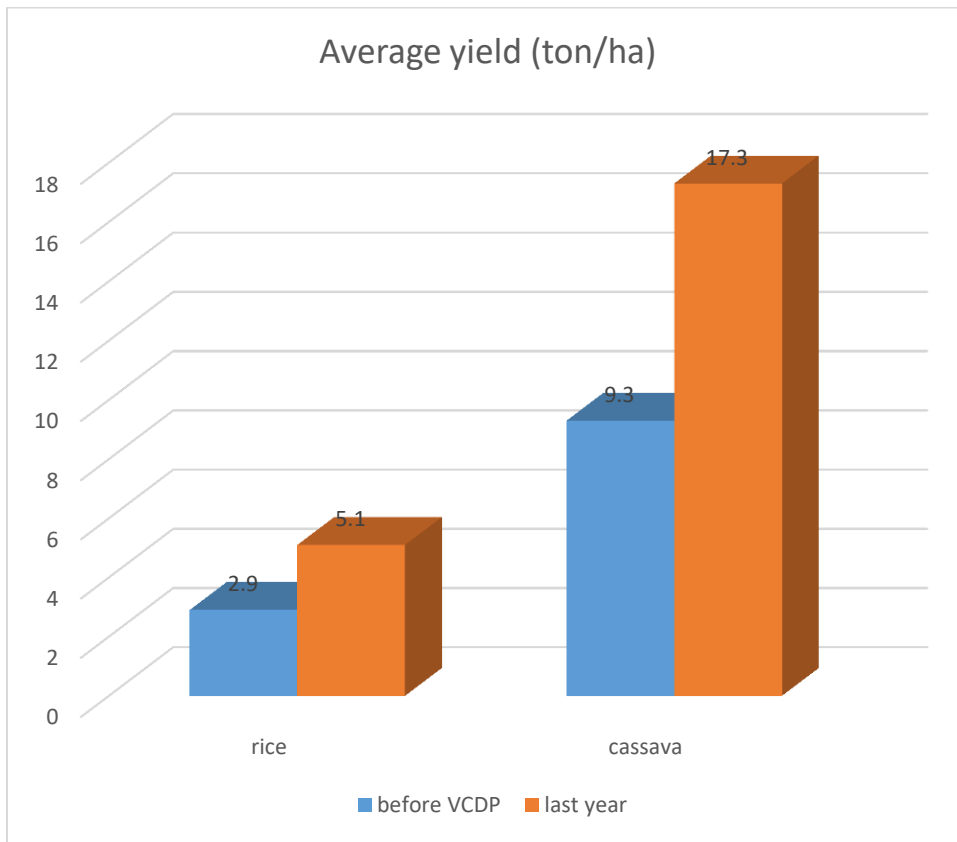


Fig 10 Source: Field Survey 2018

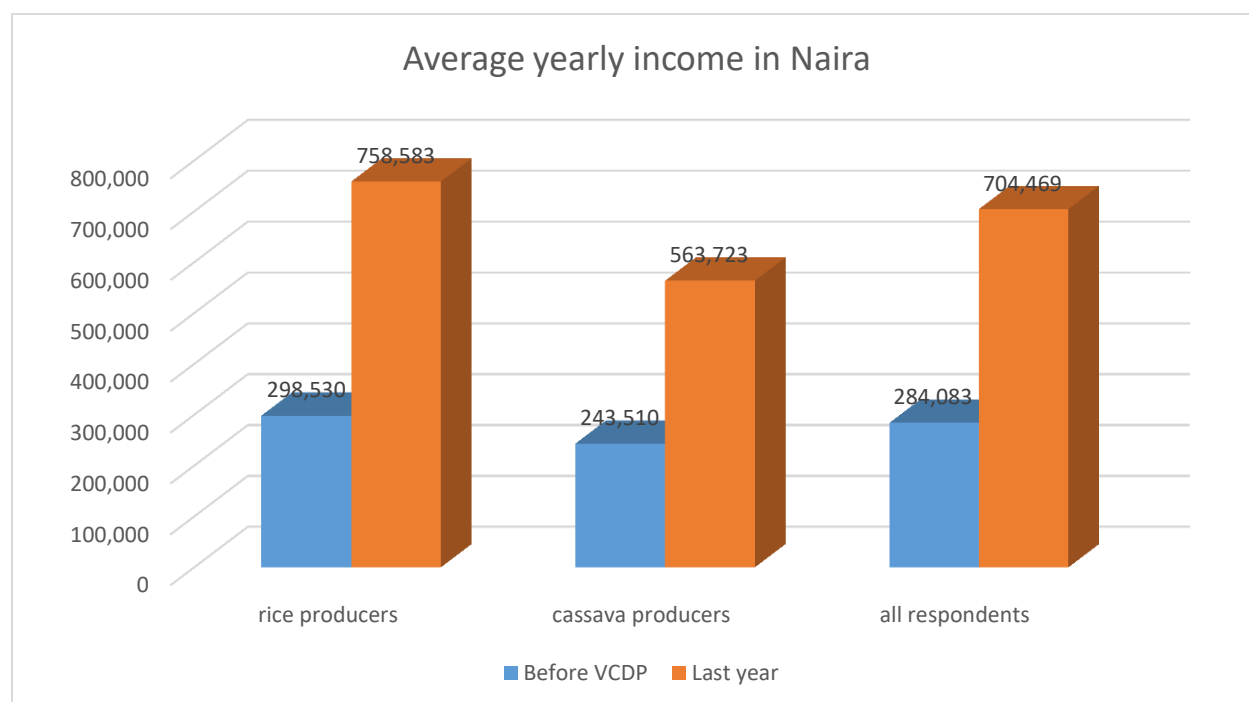
### 4.3 Level of income and physical and financial assets of beneficiaries

#### 4.3.1 Level of income

Figure 11 reveals that the average annual income of rice producers before VCDP was ₦298,530.00 and ₦758,583.00 last year while the average of cassava producers before VCDP was ₦243,510.00 and ₦563,723.00 last year.

The average annual income for all respondents before VCDP was ₦284,083.00 and ₦704,469.00 last year.

*Figure 11: Average Annual Income*



**Fig 11 Source: Field survey 2018**

*Table 5: Percentage of Increase in Income*

	Percentage of increase in income
Rice producers	170.3
Cassava Producers	206.6
All respondents	179.8

**Table 5 Source: Field survey 2018**

#### 4.3.2 Physical and financial assets of beneficiaries

From Table 6 and Figure 12, it is evident that the VCDP has a very strong positive impact on the physical and financial assets of the beneficiaries. This was established as a result of more than 90 percent of improvements recorded in income, household savings, profit making, and crops cultivated. More than 70 percent improvements in quality of dwelling unit, farm machinery, and means of transport and more than 50 percent improvements in size of dwelling unit, business assets, means of transport, size/number of landed property owned, and electrical appliances of the programme beneficiaries. It was only in a case that there was no record of up to 50 percent improvement, and this was access to credit, which has 43.2 percent improvement.

*Table 6: The manifestation of the Project on the Physical and Financial Assets of the beneficiaries*

Variables (%)	Improving (%)	No change (%)	Worsened (%)	Not applicable (%)
size of dwelling unit	52	47.8	0.3	0
quality of dwelling unit	77.4	22.6	0	0
farm machinery	77.9	17.9	0.3	3.9
income	99.4	0.6	0	0
household savings	99.7	0.3	0	0
access to credit	45.5	38	2.2	14.2
business assets	62.6	28.2	0.3	8.9
profit making	100	0	0	0
means of transport	70.9	21.5	7.5	0
size/number of landed property owned	59.8	40.2	0	0
electrical appliances	67	24.9	0.3	7.8
crops cultivated	98.9	0.8	0	0.3

**Table 6 Source: Field survey 2018**

Figure 12: Improvements to physical and financial assets

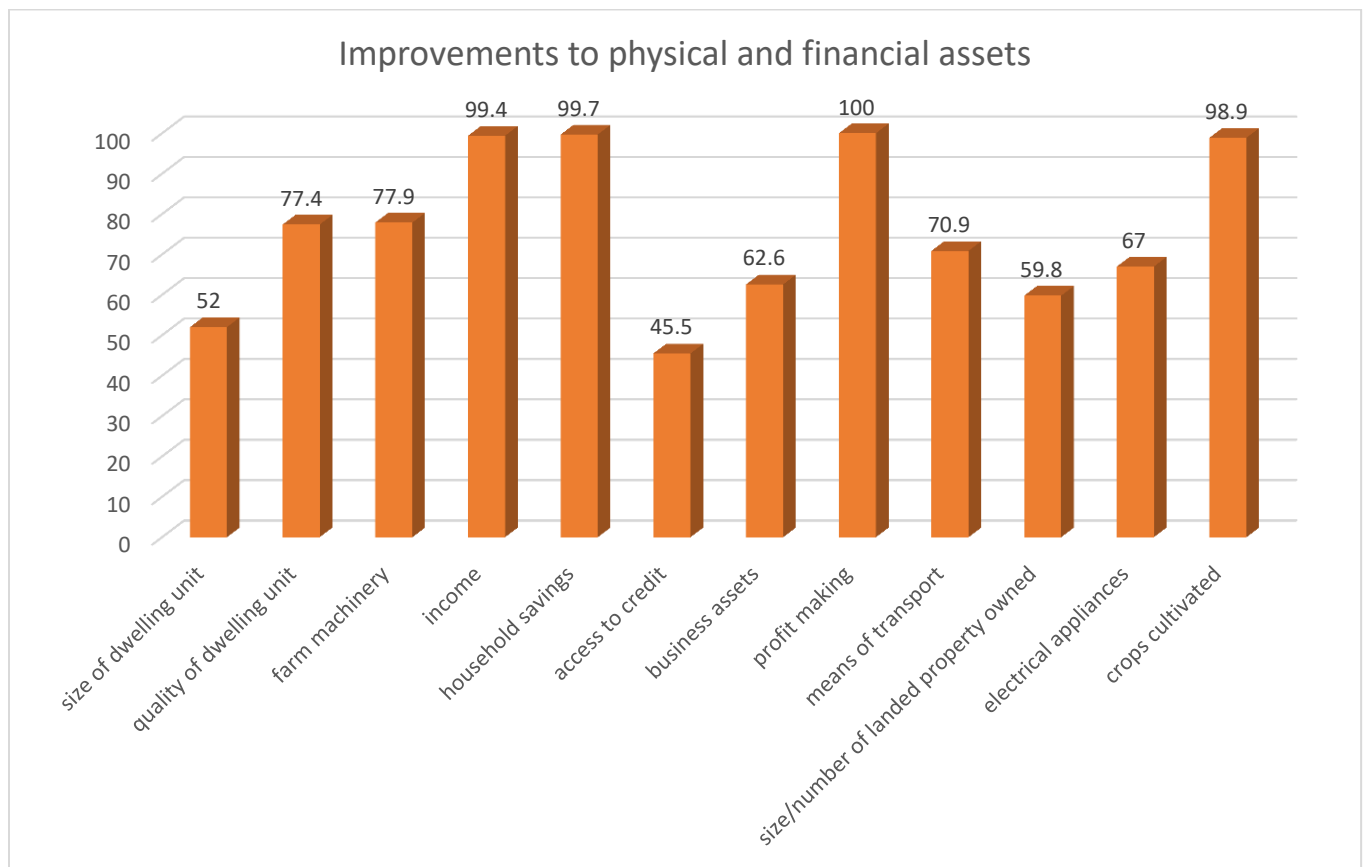


Fig 12 Source: Field survey 2018

## 4.4 Access to Market and Social Services

### 4.4.1 Access to Market

Table 7 and Figure 13 show the effect of the VCDP on the beneficiaries' access to market. There was over 95 percent of improvements recorded in access to market information, training services, and receipt of extension services. More than 60 percent improvements in cost of transportation and access to market infrastructure. These are commendable improvements. It was only in access to modern storage facilities that there was no record of up to 38.3 percent improvement.

*Table 7: The manifestation of the programme on access to market of the beneficiaries*

Variables (%)	Improving (%)	No change (%)	Worsened (%)	Not applicable (%)
Access to market information	95.5	4.5	0	0
Access modern storage facilities	38.3	58.9	0	2.8
Cost of transportation	64.8	22.9	11.7	0.6
Training services	95.3	4.7	0	0
Receipt of extension services	95	2	3.1	0
Access to market infrastructure	64.5	33.8	0.3	1.4

**Table 7 Source: Field survey 2018**

Figure 13: Improvements in Access to Market



Fig 13 Source: Field survey 2018

#### 4.4.2 Access to Social Services

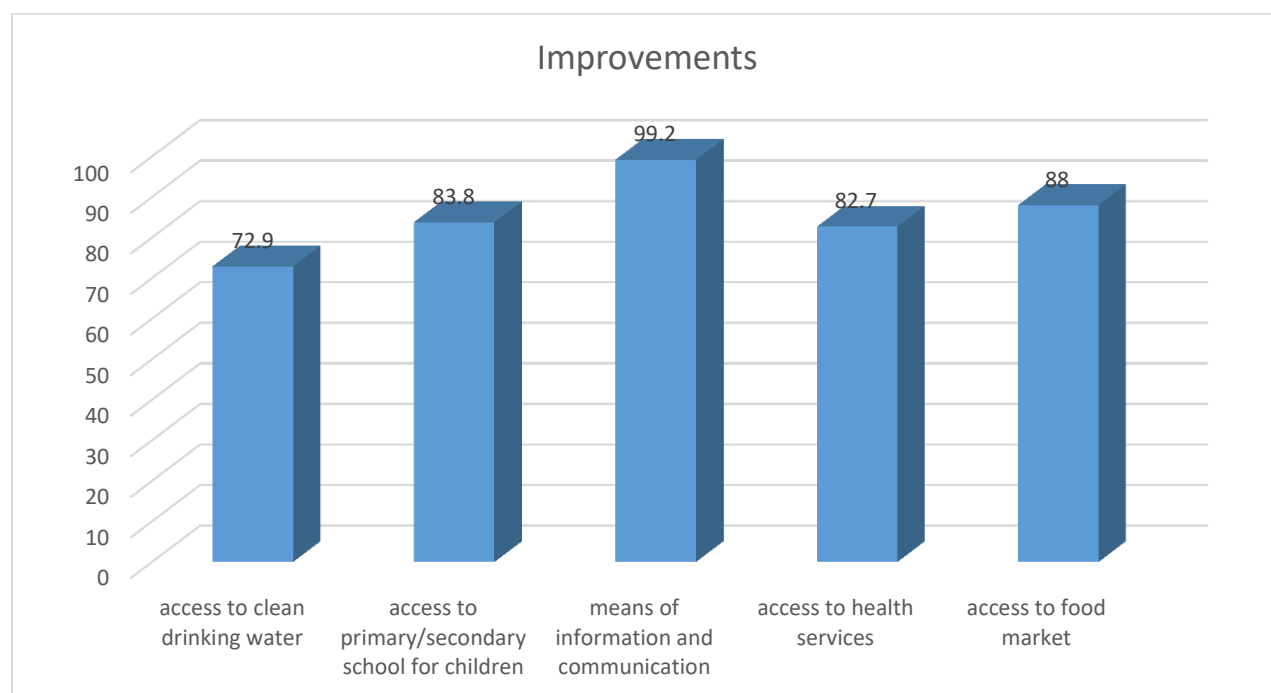
Table 8 and Figure 14 show the effect of the VCDP on the beneficiaries' access to social services. There was 99 percent of improvement in means of information and communication, more than 80 percent improvements in access to health services, food market and Primary/Secondary school for their children. There was also over 70 percent improvement in their access to clean drinking water. Improvements in their income has afforded them better health service, provision of quality education for their children and general improvements in welfare.

*Table 8: The manifestation of the programme on access to social services of the beneficiaries*

Variables (%)	Improving (%)	No change (%)	Worsened (%)	Not applicable (%)
Access to clean drinking water	72.9	26.3	0	0.8
Access to Primary/Secondary school for your children	83.8	14.2	0	2.0
Means of Information and communication	99.2	0.6	0.3	0
Access to health services	82.7	15.6	0.6	1.1
Access to food market	88	12	0	0

**Table 8 Source: Field survey 2018**

*Figure 14: Improvements in Access to Social Services*



**Fig 14 Source: Field survey 2018**

## 4.5 Level of empowerment of beneficiaries

### 4.5.1 Production decision making

From Table 9, it is clear that 81 percent of both male and female beneficiaries feel like they have autonomy in production. The few that responded “no” was because they have to focus on one crop to meet up with off-takers’ demand and this does not necessarily mean that they have no autonomy as they made the decision to do business with off-takers.

Both male and female beneficiaries are empowered in terms of autonomy in production.

*Table 9: Are you allowed to grow any type of crop for consumption and sale to the market?*

	Yes		No	
	% within gender	% of total	% within gender	% of total
Male	81.3	43.9	18.7	10.1
Female	81.2	37.4	18.8	8.7

**Table 9 Source: Field survey 2018**

From Table 10, it is clear that 82.4 percent of male and 81.8 percent of female beneficiaries make input in productive decisions. Input in productive decisions is an important part of feeling empowered.

*Table 10: Are you allowed to make decisions on methods of production or techniques?*

	Yes		No	
	% within gender	% of total	% within gender	% of total
Male	82.4	44.4	17.6	9.5
Female	81.8	37.7	18.2	8.4

**Table 10 Source: Field survey 2018**



#### 4.5.2 Access to productive resources

Table 11 shows that 81.3 percent of male producers and 69.7 percent of female producers own productive assets. These assets include land, machinery, etc. Male respondents own more assets than female respondents. This is a typical representation of ownership of assets in Nigeria especially in rural areas. The VCDP provide land for beneficiaries who do not own any to farm.

*Table 11: Do you own any asset?*

	Yes		No	
	% within gender	% of total	% within gender	% of total
Male	81.3	43.9	18.7	10.1
Female	69.7	32.1	30.3	14.0

**Table 11 Source: Field survey 2018**

Table 12 shows that 49.7 percent of male respondents and 26.7 percent of female respondents have access to credit. Accessing credit is a major problem for farmers in Nigeria. Access to credit make production decision making less stressful for farmers. Although the research indicated that male beneficiaries have more access to credit than their female counterparts, only 39.1 percent of all respondents have access to credit, which is a low percentage.

*Table 12: Do you have access to credit?*

	Yes		No	
	% within gender	% of total	% within gender	% of total
Male	49.7	26.8	50.3	27.1
Female	26.7	12.3	73.3	33.8

**Table 12 Source: Field survey 2018**

Table 13 indicates that 69.4 percent of male respondents and 60.6 percent of female respondents make decisions on whether to access credit or not. Ability to make decision on an important aspect of production resource such as credit is relevant to empowerment. The male beneficiaries are more empowered in this aspect than the female beneficiaries.

*Table 13: Do you take decisions on credit?*

	Yes		No	
	% within gender	% of total	% within gender	% of total
Male	69.4	37.4	30.6	16.5
Female	60.6	27.9	39.4	18.2

**Table 13 Source: Field survey 2018**

#### 4.5.3 Control over use of income

Table 14 shows that over 99 percent of both male and female beneficiaries have control over the use of income. They participated in decision on use of income from production. Both genders are empowered

*Table 14: Did you participate in the last 12 months on decision on use of income from production?*

	Yes		No	
	% within gender	% of total	% within gender	% of total
Male	99.5	53.9	0.5	0.3
Female	99.4	45.8	0.6	0.3

**Table 14 Source: Field survey 2018**

Table 15 indicates that male respondents (89.6%) have more input in the use of income than the female respondents (74.4%). This is because of the African notion that the male is the head of the household and thus, they have more input. It is important to note that the female respondents have a high percentage of input too.

*Table 15: If yes, how much input did you have?*

	Fairly much	Very much
Male % within gender	10.4	89.6
Female % within gender	25.6	74.4

**Table 15 Source: Field survey 2018**

#### 4.5.4 Community leadership

Table 16 shows that a higher percentage of male respondents (43%) are leaders in their various producer groups as opposed to 21.8% of female leaders. In Nigeria, males are trusted with leadership positions more than females. The men are more empowered than the women in terms of leadership in their communities.

*Table 16: Position in producers group*

	Member		Leader	
	% within gender	% of total	% within gender	% of total
Male	57	30.7	43	23.2
Female	78.2	36.0	21.8	10.1

**Table 16 Source: Field survey 2018**

Table 17 indicates that 87.6% of male respondents have much input in the decision making process in the group. 74.5% of female respondents also have much input in the decision making process. This is impressive considering the fact that only 21.8% of them are leaders in the group. While everyone cannot be the leaders in the group, it is important to see the women speaking up for themselves.

*Table 17: How much input do you have in decision making in the group?*

	Little input		Much input	
	% within gender	% of total	% within gender	% of total
Male	12.4	6.7	87.6	47.2
Female	25.5	11.7	74.5	34.4

**Table 17 Source: Field survey 2018**

Table 18 shows that 77.7 percent of male respondents feel very comfortable speaking up in public about infrastructure to be built in the community while 52.1% of the female respondents feel comfortable.

*Table 18: Do you feel comfortable speaking up in public to help decide on infrastructure to be built in your community?*

	no, not comfortable	comfortable, with a great deal of difficulty	comfortable, with a little difficulty	yes, fairly comfortable	yes, very comfortable
Male % within gender	0	0.5	0.5	21.2	77.7
Female % within gender	1.2	1.2	13.9	31.5	52.1

**Table 18 Source: Field survey 2018**

Table 19 indicates that only 33.9 percent of female respondents feel very comfortable speaking up in public about proper payment of wages for public works while 61.1 percent of male respondents feel very comfortable doing such.

*Table 19: Do you feel comfortable speaking up in public to ensure proper payment of wages for public works or other similar programs?*

	no, not comfortable	comfortable, with a great deal of difficulty	comfortable, with a little difficulty	yes, fairly comfortable	yes, very comfortable
Male % within gender	0.5	1.0	18.1	19.2	61.1
Female % within gender	2.4	4.2	31.5	27.9	33.9

**Table 19 Source: Field survey 2018**

Table 20 shows that only 37.6 percent of female respondents feel very comfortable speaking up in public to protest the misbehaviour of authorities or elected officers while 60.6 percent of male respondents feel very comfortable doing such.

*Table 20: Do you feel comfortable speaking up in public to protest the misbehaviour of authorities or elected officers?*

	no, not comfortable	comfortable, with a great deal of difficulty	comfortable, with a little difficulty	yes, fairly comfortable	yes, very comfortable
Male % within gender	15.5	4.1	4.1	15.5	60.6
Female % within gender	27.3	6.7	9.1	19.4	37.6

**Table 20 Source: Field survey 2018**

#### 4.5.5 Time allocation

Table 21 shows that none of the respondents go to farm every day. This means that they have time for leisure activities.

*Table 21: Do you go to the farm every day?*

	Yes	No
Male	0	100%
Female	0	100%

**Table 21 Source: Field survey 2018**

Table 22 indicates the average number of hours spent by the respondents on other activities that are not farm related. Male respondents spend less than 30 minutes on cooking while the female respondents spend close to 2 hours on cooking. Male respondents a little over an hour on domestic work while the female respondents spend close to 2 hours on domestic work. Male respondents spend less than an hour on caring for children and/or the elderly while the female respondents spend close to 2 hours on the same activity. Male respondents spend 3 hours on social activities while the female respondents spend 2.4 hours on social activities. Male respondents spend a little over an hour going to the market while the female respondents spend close to 2 hours going to the market.

Female beneficiaries, on the average, spend more hours than their male counterparts in all these activities except in social activities where the male have more hours recorded. The women take care of the home and are more of caregivers than the men. It is only in religious activities that both male and female recorded the same average, which is a little over 2 hours.

*Table 22: Average time (in hours) spent on activities on days you do not go to farm*

	cooking	Domestic work	Care for children/elderly	Social activities	Religious activities	Market
Male	0.4	1.1	0.7	3.0	2.1	1.2
Female	1.9	1.9	1.8	2.4	2.1	1.9

**Table 22 Source: Field survey 2018**

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Summary of Findings**

The focus of this study is to prove with empirical evidence the effect VCDP has had so far on the beneficiaries and their household.

From the results, it can be said that the Value Chain Development Programme is a major stride towards improving productivity among farmers. This will also alleviate poverty and achieve the government's vision for agricultural development. Living standards of beneficiaries have improved through the acquisition of assets such as motorbikes, cars, farm machinery and investments.

Increase in household cash flows has enabled smoother payment of children's school fees, better access to medical treatment and better participation in community decision making process.

The programme in itself was faced with some shortcomings as attested to by the respondents. Some of the beneficiaries lamented on the untimely delivery of inputs, input redemption centre located too far away from beneficiaries and untimely information dissemination.

The beneficiaries also complained about short redemption period and with no access to credit, the redemption window closes too fast for some farmers. Another issue is the limited number of hectares the farmers can cultivate with the support of VCDP.

It is to be noted also that the VCDP is only in its third year of implementation and this intervention has produced promising results.

### **5.2 Conclusion**

This research work afforded me the opportunity to apply classroom knowledge on the field. Though language was a barrier, I was able to adapt easily with the respondents and communicate with the assistance of an interpreter. The previous sections presented the effect of Value Chain Development Programme on the welfare of smallholder producers. The study was carried out in Ayamelum, Anambra East, and Awka North Local Government areas of Anambra State, Nigeria and it focuses on productivity level of beneficiaries, level of income and the physical and financial assets, access to market and social service as well as the level of empowerment of

beneficiaries. Recommendations proffered should be given due considerations and implemented in order to improve the welfare of farmers. Sustainability strategies should also be implemented in order to ensure continuity of the programme after the completion of VCDP duration.

## **5.3 Recommendations**

### **5.3.1 Access to Credit**

The importance of access to credit in agricultural production cannot be overemphasised. According to Carter and Weibe (1990), Farmers need both ex-ante and ex-post access to capital. Ex-ante capital access is required in order to finance vital production costs such as labour and purchase inputs which needed to be paid ex-ante, that is, prior to the actual realization of production. On the other hands, access to capital after the realization of the production process, that is ex-post capital access, is of particular importance when there is no insurance as it's often the case in low income agrarian economies.

In addition, Feder et al. (1990) posit that credit allows farmers to satisfy the cash needs induced by the production cycle which characterize agriculture; land preparation, planting, cultivation, and harvesting are typically done over a period of several months in which very little cash revenue is earned, while expenditure on materials, purchased inputs, and consumption need to be made in cash. Thus, access to credit may affect farm productivity because farmers facing binding capital constraints would tend to use lower levels of inputs in their production activities compared to those not constrained (Feder et al., 1989; Petrick, 2004).

Although the VCDP delivers inputs to the farmers at a subsidized rate, access to credit will further help the farmers in the various productive processes.

### **5.3.2 Timely delivery of inputs**

Timely delivery of inputs will help increase productivity. As at the time of this research which was May 2018, inputs for the farming season had not delivered to the beneficiaries. They suggested January of February for delivery of inputs to enable them plan better for the farming season.



### **5.3.3 Redemption centres and Access roads**

Establishing more redemption centres will aid in the distribution of inputs. Farmers in Awka North LGA especially lamented about the redemption centre being too far from them. They suggested the creation of at least one more redemption centre in the LGA. Construction of more access roads will also reduce transportation costs.

### **5.3.4 Youth Participation**

Youth participation should be further encouraged through creating awareness, and organizing trainings, seminars, workshop, and symposiums. According to the national bureau of statistics (NBS), Nigeria's unemployed rate keeps rising to an unprecedented high. Encouraging youth participation in agriculture will help in the pursuit of a self-sufficient economy and also reduce unemployment rate in Anambra state and Nigeria as a whole.

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Appendix



With representatives of farmers' organisations at Ugbenu in Awka North Local Government Area





At the ongoing construction of briquetting shed, parboiling shed, drying slab and warehouse at Omor in Ayamelum Local Government Area



With my on-site supervisor and representatives of farmers' organisations in Ayamelum LGA



Enumerators administering questionnaires at Umueri, Anambra East Local Government Area



UNIVERSITY OF IBADAN

CENTRE FOR SUSTAINABLE DEVELOPMENT

QUESTIONNAIRE

EFFECT OF IFAD VALUE CHAIN DEVELOPMENT PROGRAMME ON WELFARE OF SMALLHOLDER RICE AND CASSAVA PRODUCERS IN ANAMBRA STATE, NIGERIA

Introduction

Questionnaire ID: \_\_\_\_\_

This questionnaire is aimed at assessing the effect of IFAD Value Chain Development Programme (VCDP) on producers' (rice and cassava) welfare in three (3) implementing Local Government Councils (Ayamelum, Anambra East, and Awka North) in Anambra State. This questionnaire is, therefore designed to elicit information from beneficiaries of the programme on possible changes contributed by the programme. Whatever information obtained from you will be treated with strict confidentiality. Thank you for your cooperation.

GPS Position: Latitude \_\_\_\_\_ Longitude \_\_\_\_\_ Altitude \_\_\_\_\_ (metres)

Section A: Socio-Economic and Demographic Characteristics of Respondents

Serial No.	Variables	Responses	Code
1	Name of farmer's organisation	Name	
2	Local Government Area	Name	
3	Community/Cluster	Name	
4	Age of respondent (years)		
5	Gender	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 in household	[ ]
8	Highest education level attained	No formal education Primary Secondary Tertiary	[1] [2] [3] [4]
9	Farm size (in hectares)	_____	
10	Years of experience in farming	1-10 11-20 21-30 31-40 >40	[1] [2] [3] [4] [5]
11	Type of crop enterprise	Rice Cassava	[1] [2]
12	Years of planting current variety		

## Section B: Productivity

### B1: Inputs accessed and source

<b>Inputs accessed</b> Tick (Multiple Responses Allowed)	<b>Yes</b>	<b>No</b>	<b>Source</b> Pick options (1= Off-taker/ buyer 2= Commercial inputs supplier 3= Fellow farmers 4= Service providers)
1. Improved Seeds/ stems			
2. Fertilizers			
3. Pesticides			
4. Herbicides			
5. Machinery (threshers, tillers, etc.)			
6. Others (specify)			

### B2: Input Quantity

<b>Inputs</b>	<b>Quantity (before VCDP)</b>	<b>Quantity (Last year)</b>
1. Land Cultivated Rice(ha)		
2. Land Cultivated Cassava(ha)		
3. Fertilizers used (kg)		
4. Pesticides used (ltrs)		
5. Herbicides used (ltrs)		
5. Labour (in man days)		

### B3: Yield

<b>Output</b>	<b>Yield before VCDP (ton/ha)</b>	<b>Yield last year (ton/ha)</b>
Rice		
Cassava		

### Section C: Farmers' Income, Physical Assets and Financial Assets

C1. Kindly indicate your income due to your participation in IFAD value chain programme

Variable	Before VCDP	Last Year
Average Yearly Income in naira		

C2. Kindly rate the 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 programme

Variable	Improving (3)	No change (2)	Worsened (1)	Not applicable (0)
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 of land 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				
16. Profit making				

## Section D: Access to Market and Social Services

D1: Kindly indicate changes in the following as a result of your participation in IFAD value chain programme in the previous year

<b>Variable</b>	<b>Improving (3)</b>	<b>No change (2)</b>	<b>Worsened (1)</b>	<b>Not applicable (0)</b>
1. Access to market infrastructure				
2. Access modern storage facilities				
3. Improved input supply (fertiliser, credit, etc.)				
4. Cost of transportation				
5. Access to market information				
6. Training services				
7. Dissemination of improved processing techniques				
8. Receipt of extension services				

D2: Kindly indicate changes in the following as a result of your participation in IFAD value chain programme in the previous year

<b>Variable</b>	<b>Improving (3)</b>	<b>No change (2)</b>	<b>Worsened (1)</b>	<b>Not applicable (0)</b>
1. Access to clean drinking water				
2. Access to food market				
3. Access to Primary/Secondary school for your children				
4. Access to health services				
5. Means of Information and communication				

**SECTION E: Empowerment Index**

**Production decision making**

1. Are you allowed to grow any type of crop for consumption and sale to the market? Yes ( ) No ( )
2. If yes in 1 above how many types of crops? (Please specify)  
\_\_\_\_\_
3. If No in 1 above, why? \_\_\_\_\_
4. Are you allowed to make decisions on methods of production or techniques? Yes ( ) No ( )

**Access to productive resources**

5. Do you own any asset? Yes ( ) No ( )
6. If yes in Question 5 above, what type of asset do you own? Please specify  
\_\_\_\_\_
7. How did get the asset? Purchase ( ) Inherited ( )
8. Do you have access to credit? Yes ( ) No ( )
9. Do you take decisions on credit? Yes ( ) No ( )

**Control over use of income**

10. Did you participate in the last 12 months on decision on use of income from production? Yes ( ) No ( )
11. If yes how much input did you have? Very much ( ) fairly much ( )
12. When decisions are made regarding use of income generated for the Household, who normally takes decision? Main male or husband ( ) Main female or wife ( ) Husband and wife jointly ( ) Someone else in the household ( ) Jointly with someone in the household ( ) Someone outside the household ( ) Household does not engage in activity ( )
13. To what extent do you feel you can own your decision regarding control over use of income? High extent ( ) medium extent ( ) small extent ( ) Not at all ( )

**Time allocation (Workload and Leisure)**

14. Please specify the time you wake up

	Wake-up time
Weekdays	
Weekends	

15. Do you go to the farm every day? Yes ( ) No ( )
16. On the days you don't go to the farm, when do you wake up? \_\_\_\_\_

17. Please tick the activities you engage in on the days you don't go to the farm (multiple responses allowed)

Activities	Average time use (in hours)
Cooking	
Domestic work(including fetching wood and water)	
Care for children/Adults/Elderly	
Social activities, watching TV and hobbies	
Religious activities	
Going to Market	
Others specify	

**Community leadership: Group Membership and Public Speaking**

18. Are you a member of the any of the groups stated below?

Group categories	Yes	No	What is your position in the group? (leader or member)
Agricultural and Livestock group			
Credit or microfinance group			
Mutual help or insurance group			
Trade and business association			
Religious group			
Producers group			
Political group			
Others, Please specify:			

19. If you are not a member of any of the groups stated above, please state the reason

\_\_\_\_\_

\_\_\_\_\_

20. How much input do you have in decision making in the group?

Much input ( ) Little input ( ) No input ( )

21. Kindly pick an option from the options in the Response chart

Variables	Response	Response options/instructions
1. Do you feel comfortable speaking up in public to help decide on infrastructure (like small wells, roads, water supplies) to be built in your community?		Yes, very comfortable_____4 Yes, fairly comfortable_____3 Comfortable, with a little difficulty____2
2. Do you feel comfortable speaking up in public in to ensure proper payment of wages for public works or other similar programs?		Comfortable, with a great deal of difficulty_____1 No, not comfortable_____0
3. Do you feel comfortable speaking up in public to protest the misbehavior of authorities or elected officers?		

Name of Enumerator\_\_\_\_\_

Signature & Date\_\_\_\_\_

## Plan of the Study

ACTIVITIES	APRIL				MAY				JUNE			
	1	2	3	4	1	2	3	4	1	2	3	4
Familiarization visit (host organization/communities)												
Review of baseline study, formulation of research questions & interview guide												
Engage enumerators												
Conduct a research tools validity (pre-test)												
Collecting data from various project locations												
Data entry and processing												
Data analysis												
Evaluating research findings												
Reporting result												