INTERNSHIP REPORT WITH NIGER STATE VALUE CHAIN DEVELOPMENT PROGRAMME

IFAD
Investing in rural people

FGN / IFAD VCDP
...Enhancing rice and cassava value chains for sustainable agricultural transformation.

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ABSTRACT

Nigeria is one of the largest producers and consumers of rice in Africa, but there is a high rate of qualitative and quantitative loss as a result of poor handling and poor processing techniques. Adoption of appropriate innovative processing techniques is known to impact positively on agricultural development. Hence, the need to improve on the pre and post- harvest processing of rice through the adoption of innovative rice processing techniques in order to improve its value, thereby creating employment opportunities, improving rice quality and expanding the market for rice production. Similarly, the improvement of livelihood and gender equity requires the understanding of prevailing gender roles and adequate access to different livelihood opportunities as this makes technological interventions successful. Though youth have desirable qualities that can promote agriculture, most of them have strong apathy towards it. This has resulted in mass unemployment and lack of sustainable livelihood. Women and youth integration in agricultural activities is important for the sustainable development of agricultural sector. This is because they have the potential to overcome some major constraints in agricultural development as they are more opened to new ideas and practices. Therefore, the study assessed the involvement of rural youth and women in rice value chains as a means of livelihood, and its implication on the prospects of future agriculture and rural development. Preliminary results are indicative of the potentials of empowerment and sustainable development in the rice sector economy in Niger State, Nigeria.

Key Words: Value Chain, Women, Youth, Innovation, Adoption, Rice Production.

ACRONYMS

ADPs - Agricultural development programmes

CAF- Commodity Alliance Forum

CESDEV- Centre for Sustainable Development

CGIAR – Consultative Group on International Agricultural Research

CRP - CGIAR Research Program

FGN- Federal Government of Nigeria

FGD- Focus Group Discussion

FMARD - Federal Ministry of Agriculture and Rural Development

FO's- Farmer Organizations

IFAD- International Fund for Agricultural Development

IITA- International Institute of Tropical Agriculture

KI- Key Informant Interview

LGAs- Local Government Areas

MARD- Ministry of Agriculture and Rural Development

MDGs- Millennium Development Goals

MOU- Memorandum of Understanding

NCRI - National Cereal Research Institute

SDGs – Sustainable Development Goals

SPSS - Statistical Package for Social Sciences

SSA - Sub Saharan Africa

UNs- United Nations

VCDP- Value Chain Development Programme

PPP- Public-Private-Partnerships

Executive Summary

The research was carried out in Niger State, where agriculture is the primary economic activity of a majority of its citizens. Niger's economy is based largely on subsistence crops, livestock, internal markets and export of raw commodities. Over 80 percent of arable land in Niger State is used for agriculture as it possesses one of the largest and most fertile agricultural lands in the country and this accounts for the nearly 90 percent of the population engaged in agriculture in the State. Niger State has the capacity to produce most of Nigeria's stable crops. It also has ample opportunities for grazing, fishing and forestry. This report presents the findings of a research on the adoption of innovative rice processing techniques in value chain development programme by women and youth processors in Niger state, Nigeria. 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. Hence, the research focuses on four areas; the factors influencing youth participation in agricultural value chain; determinants of adopting innovative rice processing techniques; socio-economic impacts of adopting innovative rice processing techniques and the constraints for youth engagement in agribusiness.

The study methodology includes review of baseline studies, use of qualitative research techniques such as key informant interviews, focus group discussion, as well as field visits to some local government areas involved in Value chain development programme in Niger State, Nigeria.

Nigeria as a case study, information were obtained through the review of literature and use of qualitative research techniques, particularly key informant (KI) interviews and focus group discussions (FGDs).

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1.0 INTRODUCTION

1.1 Background to the Study

Nigeria is Africa's most populous country with approximately 185 million citizens increasing at 2.6% annually, and has one of the largest populations of youth in the world. (World Bank Country Profile data, 2016). The population is young with approximately 105 million under the age of 35 (59 per cent). Unfortunately, as the youth population grows, so does the unemployment rate. Each year, 15-20 million of its young people seek to enter the country's workforce, too many without success. This emphasizes the great challenge of youth unemployment but can also be seen as an opportunity for them to become the engine propelling new agriculture and agribusiness enterprises as well as rural transformation. Youth unemployment is mostly in rural areas and is rapidly growing. The transition from school to employment is particularly difficult for youth, and they are not able to find opportunities to enter into productive employment in agriculture and rural off-farm enterprises. There is no structured path to follow or role models to look up to. Many young people do odd jobs and are supported by their families before they settle into wage jobs or self-employment. The situation is aggravated by: limited access to technical skills, land and productive assets; insufficient, inappropriate and inaccessible finance; various risks exacerbated by climate change; and low opinion of agriculture's image as being not attractive for generating income and laborious. For most rural youth, the most accessible employment opportunities are in the agricultural sector or the informal sector through self-employment. Given the existing context of relatively high food prices, huge potential for growth in area and yield, and markets for processed products, agriculture and agro-allied enterprises are an immediate means of increasing incomes and providing gainful employment for large numbers of young people. Therefore, young people have been recognized as crucial target group for IFAD's programmes in Nigeria. Employment creation and involvement and participation in sustainable agricultural and entrepreneurship development are core pillars of Nigeria-IFAD Result-based Country Strategic Opportunities Programme (RB-COSOP 2016-2021).

Agricultural technology is a major driver of agricultural productivity, as agriculture becomes increasingly technology-intensive, farmers' ability and willingness to adopt new technologies is key to productivity growth and structural transformation, which in turn determines the poverty reduction rate in settings where most of the poor still live in rural areas. The ability to adapt quickly to exogenous changes will also increase in importance as, in the context of climate

change, the frequency and severity of extreme weather events is likely to increase significantly. Agriculture progresses technologically as farmers adopt innovations, the extent to which farmers adopt available innovations and the speed by which they do so determines the impact of innovations in terms of productivity growth. Adoption of innovations by farmers is inevitably affected by many factors. In general, farmers will adopt a particular technology if it usefully suits their socioeconomic and agro-ecological circumstances. The availability of improved technology, access to “modern” inputs and resources, and profitability at an acceptable level of risk are among the critical factors in the adoption process. Adoption can be influenced by educating farmers about improved varieties, cropping techniques, optimal input use, prices and market conditions, more efficient methods of production management, storage, nutrition, etc. To do so, extension agents must be capable of more than just communicating messages to farmers. They must be able to comprehend an often-complex situation, have the technical ability to spot and possibly diagnose problems, and possess insightful economic-management skills in order to advise on more efficient use of resources.

1.2 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.

1.2.1 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.

1.2.3 Goal

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

1.2.4 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 Millennium Development Goals, in particular the target of halving the proportion of hungry and extremely poor people by 2015.

1.2.5 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 Millennium Development Goals (MDGs).

1.3 IFAD in Nigeria

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.

IFAD 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 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.

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.

1.4 Value chain Development Programme, Niger State Nigeria.

The Value chain development Programme (VCDP) is a six-year development initiative of the Federal Government of Nigeria (FGN) and International Fund for Agricultural Development (IFAD) programme that is improving cassava and rice value chains for small farmers in six states of Anambra, Benue, Ebonyi, Niger, Ogun and Taraba while addressing the constraints along the value chain. Agricultural transformation through commodity value chain approach with emphasis on enhancing productivity and access to markets for rice and cassava smallholder farmers via Value Chain Development Programme is embedded in Nigeria government's plan. This is achieved through an inclusive strategy of strengthening the capabilities of actors along the chain (including producers and processors as well as public and private institutions, service providers, policy makers and regulators).

The value chain approach adopted by the Federal Government of Nigeria is therefore aimed at concentrating commodity production activities around existing rice mills by organizing farmers in groups (Farmers Organizations/cooperatives) to readily access inputs such as improved seeds, agrochemicals, fertilizers and innovative methods of production from extension services. Intense efforts are been made to achieve self -sufficiency in rice production in Nigeria in which several bilateral, multilateral agencies as well as local entrepreneurs are currently supporting rice production and processing in Nigeria. The FGN via the Central Bank of Nigeria has established the Anchor Borrowers Programme which has recorded significant increase in Rice production. VCDP has been put in place to address the demand gap in rice production by substantially increasing production through the use of best agronomic practices, making it more competitive and providing more income.

The target groups selected for value addition program are categorized into 2;

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 no 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.

Niger state VCDP focuses on three dimensions

A. Agricultural market development

Commodity Alliance Forum (CAF): is a quarterly meeting where all stakeholders come together to discuss along the value chain. They are the executives that drives the process. E.g. Onxy and Olam partnership.

B. Smallholders enhancement and Productivity

Sensitizations are organized for stakeholders and farmer organizations across Local government areas. The VCDP has leveraged on a total of ₦12 million from a private sector (Onyx) for the payment of 50% matching grants to their network of farmers. Progress is being made on a back-up to operate the bird scaring equipment through waste management/ biogas electricity generation.

C. Programme Management and coordination

Niger State VCDP promotes two commodities; rice and cassava through farmer organization (Producers, processors and marketers). The participating LGAs in Niger state include: Bida, Katcha, Kontagora, Shiroro and Wushishi. Five outreach LGAs are also included in capacity building programs in which the farmers comes to learn and disseminate the knowledge back at their LGAs.

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 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 value chain and gross neglect of Africa's agricultural research and extension capacity, which jeopardizes progress toward developing Africa's rice sector. Given these realities, it is clear that it is imperative to invest in the next generation of farmers. Young rural people can be key players driving rural transformation and combating poverty.

However, rural communities are not benefiting fully from the transformational potential of youth: The absence of decent work opportunities in rural areas is one of the reasons young rural women and men are migrating to urban areas at an unprecedented level. As the dynamics of rural life change, there is a pressing need to create opportunities for young people to contribute to their communities and have decent livelihoods in the agricultural and non-farm sectors. Moreover, with a rapidly growing global population especially in the developing world providing food security increasingly requires innovative solutions and technologies (Feighery et al. 2011). Yet, most point out that the young people should be at the forefront of revitalizing agriculture since they tend to be more innovative (FAC 2011). Young people are the key to the future of agriculture both as small-scale producers and as part of the labor market for different scales of agriculture (Proctor and Lucchesi 2012).

According to (AfricaRice 2011), present processing practices in Africa cause around 15-25% physical loss and because of poor quality, an additional financial loss at the market of 20-30%. Improvement on both loss and quality is hampered by the separation of the three segments of the sector- production, processing and marketing. Lack of organizational arrangements and partnerships, capacity building across the value chain has reduced the competitiveness of rice sector, especially the roles of women involved in post-harvest activities such as parboiling and milling.

Thus, with a hope of understanding rural youth and women participation in agribusiness and the factors that influence them, the study will explore rural youth and women involvement in

agricultural value chains as a means of livelihood, and its implication on the prospects of future agriculture.

1.5 Objectives of the study

The major objective of the study is to determine the factors that influence youth participation in agricultural value chains and its implications for youth engagement in agribusiness. The study will specifically:

1. Identify the socio-demographic characteristics of the beneficiaries and non-beneficiaries.
2. Determine the factors that influence youth participation in agricultural value chains.
3. Determine the socio-economic impacts of the adoption of innovative rice processing techniques.
4. Identify the constraints for youth engagement in agribusiness.
5. Identify the determinants of innovative rice processing techniques adoption.

2.0 METHODOLOGY

2.1 Timeframe of the Survey

The researcher had a timeframe of three months to carry out the survey as it is the period of internship program.

2.2 Selection Criteria for the study site.

The research was carried out in Niger State, one of the states participating in the VCDP initiative of the FGN and IFAD programme on the improvement of Rice and cassava value chains for small holder farmers. Agriculture is the primary economic activity of a majority of its citizens and its economy is based largely on subsistence crops, livestock, internal markets and export of raw commodities. Over 80 percent of arable land in Niger State is used for agriculture as it possesses one of the largest and most fertile agricultural lands in the country and this accounts for the nearly 90 percent of the population engaged in agriculture in the State. Niger State has the capacity to produce most of Nigeria's stable crops. It also has ample opportunities for grazing, fishing and forestry. This report presents the findings of a research on the adoption of innovative rice processing techniques in value chain development programme by women and youth processors in Niger state, Nigeria.

2.3 Sampling Method

Multi staged sampling technique was adopted. 3 LGAs were randomly selected from the 5 LGAs participating in the Value Chain Development Program, after which 120 respondents were purposively selected from each local government area. A total of 360 respondents were used for the study.

Table 1: Sample Frame for Local Government Area

Local Government Areas	Beneficiaries	Non-beneficiaries	Number of respondents selected
Bida	93	27	120
Katcha	87	33	120
Wushishi	105	15	120
Total	**285**	**75**	**360**

2.4 Data Collection methods and sources

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 involved in Value chain development programme in Niger 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 pre-test was carried out, after which the questionnaire was reviewed and corrected.

Meetings were held with the farmer groups, stakeholders and political leaders in order to elicit information. Focus group discussion and key informant interview were also conducted by the researcher with the assistance of experienced interpreters.

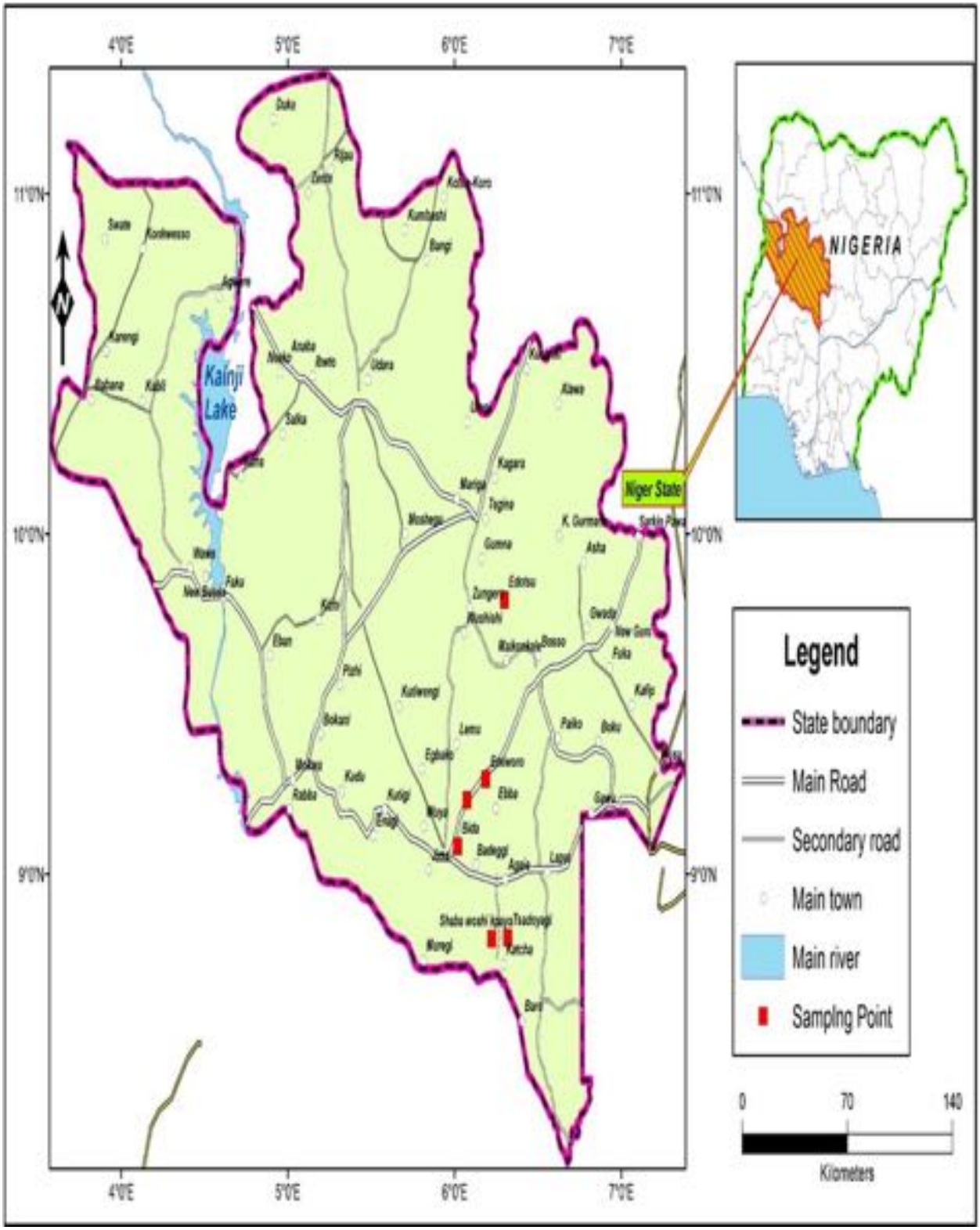


Figure 1: Map of Niger State showing study sites.

2.5 Data Analysis

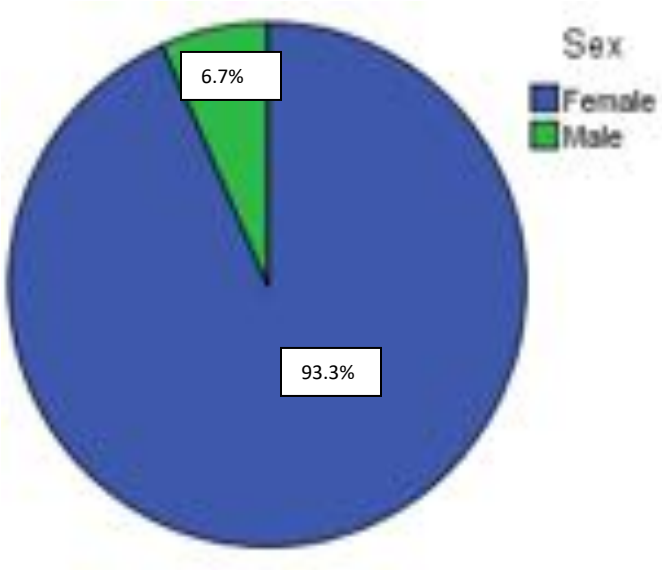
Data collected was coded and analyzed using Statistical Package for Social Sciences (SPSS) using descriptive statistics in form of percentages, frequencies, mean scores, standard deviation and T-test. Percentages were specifically used to (present information in tables and figures) analyze the demographic characteristics of the respondents, factors influencing youth participation in agricultural value chain, socio-economic impact of adoption, constraints of youth participation in agribusiness while mean scores were used to analyze the productivity of the respondents.

3.0 Results and Discussion

3.1 Socio-Demographic Information of Respondents

This section presents information about the sex, age, marital status, educational qualification, visits from extension agents, years of experience, beneficiary status of the respondents. The information provided here is analyzed using frequency count and percentage.

Figure 2: Gender Distribution of Respondents



Majority of the respondents are female (93.3%) while 6.7% are male. This reveals that female empowerment is encouraged as processing activities is well suited to the female gender, it also re-affirms that women make essential contributions to agriculture and rural enterprise.

Table 2: Age distribution of the Respondents

Age Range	Frequency	Percentage (%)
Less than 20	2	6
21-30	123	34.2
31-40	182	50.6
41-50	53	14.7

The study shows that 84.8% of the respondents are youth as they fall within the age range, this indicates that youth integration is important for the development of agricultural sector. This is because youth are more open to new ideas and practices than adult farmers.

3.6% of the respondents are single and widowed while 92.8% are married with 65.8% of the respondents having dependents. This implies that there are more family labour available for production activities.

Table 3: Distribution of Extension visits by Beneficiary status

		Have you had any visits from extension agents in the last six months?		Total
		Yes	No	
Non-beneficiary	Frequency	22	53	75
	% within beneficiary status	29.3%	70.7%	100.0%
	% within Have you had any visits from extension agents in the last six months?	7.5%	80.3%	20.8%
Beneficiary	Frequency	272	13	285
	% within beneficiary status	95.4%	4.6%	100.0%
	% within Have you had any visits from extension agents in the last six months?	92.5%	19.7%	79.2%
Total	Frequency	294	66	360
	% within beneficiary status	81.7%	18.3%	100.0%
	% within Have you had any visits from extension agents in the last six months?	100.0%	100.0%	100.0%

According to table 3 above, 29.3% of the non-beneficiaries indicated that they have been visited while 70.7% of them have not had any visits from extension agents in the last six months. In

addition, 95.4% of the beneficiaries have been visited while 4.6% of the beneficiaries indicated that they have not been visited.

Table 4: Distribution of Respondents level of Educational and years of experience

Variables	Frequency	Percentage (%)
Level of Education		
Primary	27	7.5
Secondary	32	8.9
Adult Education	10	2.8
Post-Secondary	23	6.4
Non Formal Education	268	74.4
Nature of engagement in agricultural activities		
Full time	279	77.5
Part time	81	22.5

Based on the findings of the study, 7.5% of the respondents have primary education, 8.9% have secondary education, 2.85 of them have adult education, and 6.4% went for post-secondary education while a larger number of them (74.4%) have no formal education. The nature of the engagement of the youths and the women in the agricultural value- chain shows that a larger percentage of the respondent are fully involved agricultural value chain i.e. 279(77.5%) while only 81(22.5%) of the respondent claimed that they only have part time engagement in the agricultural value- chain.

3.2 Factors influencing Youth participation in agricultural value chain

Table 5: Youth/women Awareness

Questions	Categories	Frequency	Percentage (%)
Who offers trainings on agricultural projects in this region?	Non- Governmental Organization	360	100.0
	Government of Nigeria	89	24.7
	Private Sector	288	80.0
How many trainings organized by any of the actors stated in question above have you attended?	None	21	5.8
	1-5	237	65.8
	5-10	86	23.9
	More than 10	16	4.4

The analysis in Table 5 above examines youth/women awareness as a factor influencing their participation in agricultural value chain. By categorizing institutions that offers trainings on agricultural projects in the area, all the respondents indicated that Non-governmental Organization i.e. 360(100.0%), followed by the Private Sector 288(80.0%) while the least body that offers trainings in agricultural projects in this region is the Government of Nigeria i.e. 89(24.7%). This shows that the government of Nigeria needs to offer more training on agricultural projects in the region.

Table 6: Influence of youth/ women awareness on agricultural value chain projects.

Statement	Yes	No
Do local agricultural department frequently organize training for the youth/women?	285(79.2%)	75(20.8%)
Does the training and topics covered adequately meet the needs of youth and women?	267(74.2%)	93(25.8%)
Do youth/women always attend extension training sessions?	345(95.8%)	15(4.2%)
Do they have access to various sources and types of information used to implement agricultural projects successfully?	314(87.2%)	46(12.8%)
Are there extremely low local community awareness and involvement in youth/women oriented programs?	86(23.9%)	274(76.1%)

From the table above, 285(79.2%) respondents agree that local agricultural department frequently organize training for the youth or women, 267(74.2%) indicated that the training and topics covered adequately meet the needs of youth and women, 345(95.8%) respondents specified that youth and women always attend extension training sessions, 314(87.2%) agree that youth and women have access to various sources and types of information used to implement agricultural projects successfully, while 274(76.1%) respondents disagree that there are extremely low local community awareness and involvement in youth and women oriented programs. This result indicates that youth and women awareness positively influences agricultural value chain projects.

Table 7: Perception of youth/women on agriculture.

Perception	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Youth/women engage in agricultural activities in Niger State	0(0.0%)	1(0.3%)	2(0.6%)	169(46.9%)	188(52.2%)
Youth/women aspire for a career in agriculture	0(0.0%)	10(2.8%)	4(1.1%)	240(66.7%)	106(29.4%)
Youth/women see agriculture as a low status profession	111(30.8%)	171(47.5%)	20(5.6%)	21(5.8%)	37(10.3%)
Youth/women perceive agriculture to be a profitable venture	0(0.0%)	3(0.8%)	6(1.7%)	163(45.3%)	188(52.2%)
Youth/women in Niger state appreciate agriculture as a source of income	0(0.0%)	5(1.4%)	2(0.6%)	159(44.2%)	194(53.9%)

From the table above, with the highest frequencies, 188(52.2%) respondents strongly agree that youth and women engage in agricultural activities in Niger State, 240(66.7%) respondents agree that youth and women aspire for a career in agriculture, 171(47.5%) disagree that youth and women see agriculture as a low status profession, 188(52.2%) respondents strongly agree that youth and women perceive agriculture to be a profitable venture, while 194(53.9%) respondents strongly agree that youth and women in Niger State appreciate agriculture as a source of income. This results proves that there is a very positive perception of youth and women on agriculture.

Table 8: Distribution of group membership

Question	Categories	Frequency	Percentage
Are you a registered member of any youth/women group that engages in agricultural activities?	Yes	293	81.4
	No	67	18.6

The table above shows the distribution of group membership. 293(81.4%) indicated that they are registered members of a youth/women group, 282(96.2%) respondents indicated that they belonged to 1 group, 9(3.1%) respondents indicated that they belonged to 2 groups, while

2(0.7%) respondents indicated that they belonged to 3 groups. This implies that group membership is essential as it influences participation in agricultural activities.

Table 9: Influence of Youth/women access to Social capital on their participation in agricultural value chain.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Youth/women are registered as members in groups engaged in agricultural activities	1(0.3%)	0(0%)	1(0.3%)	167(46.4%)	191(53.1%)
Youth/women network regularly with members of other agricultural groups	1(0.3%)	1(0.3%)	5(1.4%)	184(51.1%)	169(46.9%)
The groups offers adequate social support e.g. access to credit, market information.	4(1.1%)	1(0.3%)	25(6.9%)	238(66.1%)	92(25.6%)
There is a shared/ common value among the group member	0(0%)	1(0.3%)	14(3.9%)	207(57.5%)	138(38.3%)
There is trust among Youth/women group members	2(0.6%)	3(0.8%)	19(5.3%)	179(49.7%)	157(43.6%)
The group receives support from the community	9(2.5%)	81(22.5%)	57(15.8%)	67(18.6%)	146(40.6%)

From the table above, 191(53.1%) respondents strongly agree that youth/women are registered in groups and are also engaged in agricultural activities, 184(51.1%) respondents agree that youth/women network regularly with members of other agricultural groups, 238(66.1%) respondents agree that the groups offer adequate social support such as access to credit and market information, 207(57.5%) respondents agree that there is a shared/common value among the group members, 179(49.7%) respondents also agree that there is trust among youth/women group members, while 146(40.6%) respondents strongly agree that the group receives support from the community.

3.3 Socio-economic Impacts of adopting innovative rice processing techniques

Figure 3: Socio-economic Impacts of the adoption of innovative rice processing techniques

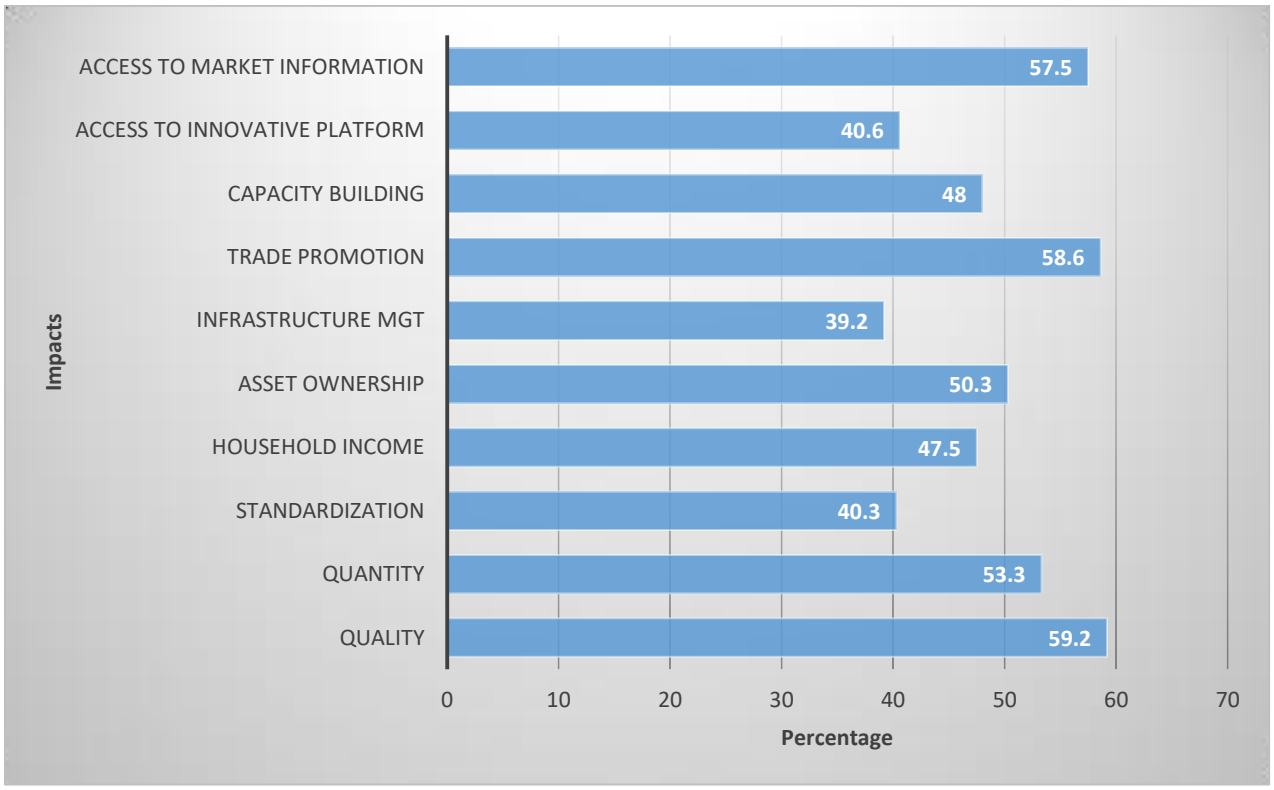


Figure 3 reveals the different level of impacts attained as a result of the adoption of innovative rice processing techniques. It is observed that a larger percentage of the respondent claimed that they recorded high impact in the quality of the rice 120(33.3%) and 213(59.2%) of the respondent claimed that they recorded a very high and a high impact respectively, also from the quantity of the rice produced 192(53.3%) and 114(3.7%) of the respondent claimed that they recorded a high and an average impact in the quantity, while for the remaining level of impacts, a large number of the respondent were of the opinion that they recorded a high impact Standardized production (Quality control) 144(40.3%), Household Income 171(47.5%), Asset ownership 181(50.3%), Infrastructure management 141(39.2%), Trade promotions 211(58.6%), Capacity building 175(48.6%), Access to innovative platforms 146(40.6%) and Access to market information 207(57.5%). These results implies that there have been positive improvement as observed in the impact levels but there is a need to improve on the management of infrastructure.

Table 10: Productivity of Respondents

Production Units	Mean
Installed capacity kg	56,325.83
Actual capacity kg	28,039.72
Quantity of raw materials purchased (kg)	2,795.28
Cost Incurred on Purchase in Naira	424,447.22
Quantity of raw materials processed (kg)	1764.47
Quantity sold (kg)	1,755.44
Average sales in Naira	573,252.25
Profit	148,805.03

From the table above, different production units were analyzed: the installed and actual capacity of the milling machines, the quantity and Naira values of the inputs (paddy), the quantity of rice that was finally processed, the value of the processed rice and finally the profit that the respondent generated from the sales of the products. The table reveals that the installed processing capacity (monthly) is an average 56,326kg of rice per processor while actual capacity that is processed monthly by the respondent is 28,040kg of rice paddy. The mean quantity of raw materials that was purchased was 2,795kg, the total mean cost incurred on the purchase of rice paddy is ₦424,447. By comparing the quantity of paddy purchased and the quantity of rice gotten after processing, it is observed that there is approximately half of what is purchased as what is processed i.e.1764.5 kg, However on the quantity that was sold from what is processed, it is observed that 1,755kg is what is sold at the market, as some of the processed rice is used for household consumption while some processors use it as payment for labour. The average sales made from the sale of the product at the market is N573, 252 while the mean profit that is made by the farmers is N148,805. This implies that in as much as the youths and the women are fully involved in the rice processing activities, more income can be generated and if innovative technique is fully integrated, new ways of processing are adopted so that the installed capacity can be utilized to the optimal level.

3.4 Constraints for youth engagement in agribusiness

Table 11: Constraints for youth engagement in agribusiness?

Constraints	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Inadequate capital	2(0.6%)	3(0.8%)	3(0.8%)	178(49.4%)	174(48.3%)
Inadequate resources	2(0.6%)	4(1.1%)	41(11.4%)	158(43.9%)	156(43.1%)
Lack of market	104(28.9%)	83(23.1%)	10(2.8%)	113(31.4%)	50(13.9%)
Poor and inaccessible roads	24(6.7%)	111(30.8%)	10(2.8%)	144(40.0%)	71(19.7%)
Lack of technical know-how	83(23.1%)	98(27.2%)	41(11.4%)	69(19.2%)	69(19.2%)

The table 11 above represents constraints encountered by the respondents in doing agribusiness, a larger percentage of the respondents agreed and strongly agreed that "Inadequate capital" 178(49.4%) and 174(48.3%) is a constraint to engagement in agribusiness. 158(43.9%) and 156(43.1%) of the respondents agreed and strongly agreed to "Inadequate resources" being a constraint, 40.0% of them agreed that "Poor and inaccessible roads" is a constraint. The respondent claimed that they strongly disagree and disagree, 104(28.9%) and 83(23.1%) respectively that "Lack of market" didn't pose any threats, while "Lack of technical know-how" in which 83(23.1%) and 98(27.2%) of the respondents strongly disagreed and also disagreed respectively to the statement.

The severity of different constraints to the adoption of the innovative rice processing technique in the sampled area is observed in table 12 below. The study reveals that Insufficient funds has the highest level of severity as 159(44.2%) and 181(50.3%) of the respondent claimed it is very severe and severe respectively, Insufficient equipment was claimed to be 138(38.3%) and 146(40.6%) very severe and severe respectively, also on the Lack of storage facilities and Inadequate rural infrastructure in which 192(53.3%) and 156(43.3%) of the respondent claimed they are severe respectively for both factors, while the other constraints listed in which the respondent claimed that they are not severe includes; Addition of extra cost in production 245(68.1%), High cost of labor 227(63.1%), Time is wasted when reading and adjusting measurement on the weighing scale 303(84.2%), Processing hazards 261(72.5%), Lack of good

market 257(71.4%), Poor extension services 293(81.4%), Poor leadership in the group 274(76.1%), and finally No difference in selling price when conventional method is used 244(67.8%) respondents, This implies that the major challenges encountered by the women and youth processors are; insufficient funds, insufficient equipment's, lack of storage facilities and Inadequate rural infrastructure.

Table 12: Constraints to the adoption of the innovative rice processing technique

Constraints	Very severe	Severe	Not severe	Indifferent
Insufficient funds	159(44.2%)	181(50.3%)	20(5.6%)	0(0.0%)
Insufficient equipment	138(38.3%)	146(40.6%)	72(20.0%)	4(1.1%)
Addition of extra cost in production	5(1.4%)	104(28.9%)	245(68.1%)	6(1.7%)
High cost of labour	5(1.4%)	116(32.2%)	227(63.1%)	12(3.3%)
Time is wasted when reading and adjusting measurement on the weighing scale	2(0.6%)	7(1.9%)	303(84.2%)	48(13.3%)
Processing hazards	2(0.6%)	86(23.9%)	261(72.5%)	11(3.1%)
Lack of good market	23(6.4%)	77(21.4%)	257(71.4%)	3(0.8%)
Poor extension services	10(2.8%)	49(13.6%)	293(81.4%)	8(2.2%)
Poor leadership in the group	6(1.7%)	51(14.2%)	274(76.1%)	29(8.1%)
No difference in selling price when conventional method is used	2(0.6%)	79(21.9%)	244(67.8%)	35(9.7%)
Lack of storage facilities	68(18.9%)	192(53.3%)	96(26.7%)	4(1.1%)
Inadequate rural infrastructure	94(26.1%)	156(43.3%)	107(29.7%)	3(0.8%)

3.5 Determinants of adopting innovative rice processing techniques

The figure 4 below shows the percentages and frequency distribution of different innovative processing techniques that the youth and the women processors in the study area have adopted. The study reveals that a majority of the respondents uses the drum (96.7%), aluminum pots (95.8%), false bottom technique (63.1%) and Weather Smart Climate Reader (53.1%). Other processing equipment that have been adopted include; moisture meter (13.9%) thresher (16.4%) Stitching Machine (25.3%), Rice Mill (25.8%) Packaging Materials (26.4%) and Destoner (36.7%) which are used less by the youths and the women during the process of rice production. The researcher deduced that the equipment's that are expensive to purchase are used less by the respondent while those that they can afford are being used more. Other equipment that the

women and youths use in their rice processing include; Basket, bowl, bucket, basin, sacks, Tarpaulin, Rake, broom, stone stove, and Scooping stick.

Figure 4: Innovative rice processing technique adoption

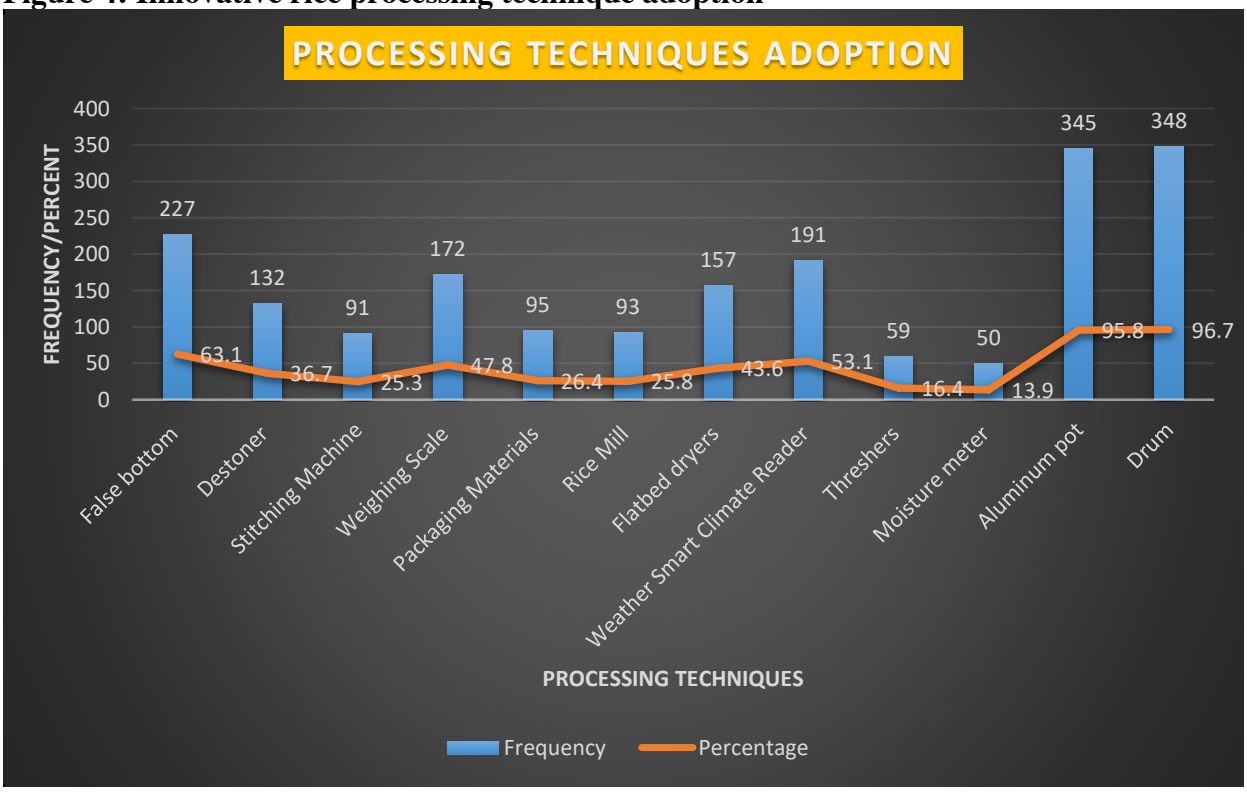


Table 13: R**easons for adopting the innovative rice processing techniques**

Reasons	**Frequency**	**Percentage**
Simple to use	300	83.3
Processes large quantity at a time	279	77.5
Processing operations are faster	288	80.0
Processes quality products without stones.	239	66.4
It is less tedious	263	73.1
It increases the commercial value of product	299	83.1

The table above examines the reasons why youth and women processors adopt the different innovation rice processing techniques that are available in the sampled areas. It is observed that from the total population of the study, 300(83.3%) claimed that they adopted the processing techniques because it is easy to use, 299(83.1%) claimed that it increases the commercial value of product, 288(80.0%) claimed that the Processing operations are faster, 279(77.5%) of the

respondent claimed that they adopted the techniques large quantity of raw materials can be processed at a time, 263(73.1%) and 239(66.4%) of the respondents claimed that adopted the techniques because it is less tedious and Processes quality products without stones. All this indicates that the innovative techniques of producing rice from paddy is more beneficial.

Table 14: Access to or benefited from the following value chain services or support last farming season

Value chain services/ support	Frequency	Percentage
Market Information	327	90.8
Quality Control and Standardization	268	74.4
Linkage to Market/Off-taker	265	73.6
Value Addition Technology promoted on rice	256	71.1
Capacity building on Business and Enterprise Management	268	74.4
Training on Infrastructure Management	211	58.6
Processing waste management	201	55.8
Certified rice seeds	260	72.2

From the table above examines value chain services or support that the respondent have access to or have benefitted from. The analysis shows that Market Information has the highest percentage in terms of support received i.e. 327(90.8%). Value chain services such as Quality Control/ Standardization and Capacity building on Business and Enterprise Management were indicated by the same number of respondent i.e. 268(74.4%), while the Training on Infrastructure Management and Processing waste management have the least number of respondent i.e. 211(58.6%) and 201(55.8%). This indicates that more training needs to be organized for the youths and the women, also the issue of waste management needs to be addressed.

From the table 15 below, 199(55.3%) respondents indicated that the size of land available to them to carry out agricultural processing activities is less than 1 acre, 296(82.2%) respondents agree that the distance to the nearest market for agricultural produce is less than 60 minutes which means there is unrestricted and timely access to the market, 175(48.6%) respondents

indicated that the status of the road network from production site to the market has not changed, while 179(49.7%) respondents indicated that access to credit to a great extent has influenced participation in agricultural value chain in Niger State. Research shows that access to financial support for agricultural production not only increases the productivity capacity of the sector but also increases the success rate and assets of those involved (Olomola and Yaro 2015).

Table 15: Distribution of Economic Factors that influence adoption

Economic variables	Characteristics	Percentage	N	Mean	Std. Deviation	Std. Error
Size of land for agricultural processing activities	Less than 1 acre	55.3	199	4.1859	2.69878	.19131
	1-3 acres	27.2	98	7.3776	3.61986	.36566
	3-5 acres	7.2	26	5.6154	1.20256	.23584
	More than 5 acres	10.3	37	6.9459	1.80963	.29750
	Total	**100**	**360**	**5.4417**	**3.18106**	**.16766**
Distance to the market	Less than 60 minutes	82.2	296	5.3446	3.30426	.19206
	1-2 hours	16.1	58	5.5862	2.43537	.31978
	2-3 hours	0.3	1	9.0000	.	.
	More than 3 hours	1.4	5	8.8000	.44721	.20000
	Total	**100**	**360**	**5.4417**	**3.18106**	**.16766**
Status of the road network	Deteriorated greatly	10.0	36	5.9722	1.53969	.25661
	Deteriorated a little	18.6	67	4.5224	1.73518	.21199
	It has not changed	48.6	175	5.9200	4.03923	.30534
	Improved a little	14.4	52	5.6538	2.44054	.33844
	Greatly improved	8.3	30	3.7000	.53498	.09767
	Total	**100**	**360**	**5.4417**	**3.18106**	**.16766**
Access to credit	Very great extent	42.5	153	4.3268	2.27928	.18427
	Great extent	49.7	179	6.4749	3.48241	.26029
	Moderate extent	3.3	12	6.7500	4.47468	1.29173
	Small extent	0.3	1	2.0000	.	.
	Not at all	4.2	15	3.6667	.48795	.12599
	Total	**100**	**360**	**5.4417**	**3.18106**	**.16766**

The table also analyses the economic variables of the respondent and the level of adoption of the new techniques in rice processing. The study reveals that in terms of size of land that the respondent have for agricultural processing activities, those that have less than 1 acre of land for

farming have a mean value of 4.18 compared to those that have More than 5 acres of land have with a mean value of 6.9459, the distance to the nearest market shows that more of the respondent spend between 0 minutes to 2 hours to the market and this have a mean value of 5.5862, this implies that the distance is a key factor that the respondent consider when they need to engage in the new processing of rice paddy, while for the road network influencing the adoption of the new techniques shows that those that said the road has deteriorate greatly have a mean value of 5.97 while the road network has not changed has a mean value of 5.92 and finally on the access to credit facilities shows that they more prospect of getting credit facilities the more the respondent will want to be involved in the usage of new techniques that will improve their processing capacity.

4.0 Conclusion

The internship training at Niger State VCDP was a boot in the dirt experience, it afforded me the opportunity of practically applying classroom knowledge on the field, ability to work in a team and be productive. Though language was a barrier, I was able to adapt easily with the respondents and communicate fluently with the assistance of an interpreter. Hence the research was conducted and data collected to make policy recommendations.

The previous sections presented an assessment of adoption of innovative rice processing techniques in Value chain development programmes, with a focus on youth and women. The study was carried out in Bida, Katcha and Wushishi Local Government areas of Niger State, Nigeria and it focuses on the factors that influences youth participation in agribusiness, factors that influence adoption of innovative processing techniques as well as the constraints of participation and adoption were discussed., recommendations proffered should be given due considerations and implemented in order to aid the adoption and implementation of innovative processing techniques. Sustainability strategies should also be implemented in order to ensure continuity of the programme after the completion of VCDP duration.

Nigeria can produce rice sufficiently for its citizens and even for export but cheap imports will continue to dominate the domestic market until the country can put its act together. No doubt, Nigeria should support free trade but only in areas where it cannot develop domestic capacity. In the case of rice imports, the country's policy should be protective until it gains economies of scale, efficiency and self-sufficiency in domestic production. Import substitution should be encouraged to acquire required machinery for rice production on a commercial scale. But this should be done by the private sector and regulated by government. Providing incentives for agribusiness companies to create decent jobs for local people is critical, as is ensuring the provision of suitable and high-quality education and training in rural areas. Effective labour legislation and transparent inspection frameworks, along with working with agribusinesses to sensitize and build capacities on the issue of decent employment, should also be prioritized.

New alliances and new forms of partnership are required as agricultural market opportunities expand, the dynamics surrounding production and consumption change, and the interest in the sector widens among a range of public and private actors. Equitable, fair and transparent partnerships across the different stages of value chains can produce win-win outcomes for

agribusiness companies and smallholders. When this happens, inclusive outcomes are more likely to be achieved: i.e. economic empowerment for smallholders and sustainable business models for agribusinesses, both contributing to inclusive and transformative economic processes. A range of different types of partnerships and conditions are required to bring this reality into being (IFAD 2013).

Farmers' cooperatives/associations have played a notable role in mitigating the risks involved in partnerships between smallholders and agribusiness companies. From the position of smallholders, these organizations have empowered members to deal with larger private actors on a more even footing, enabling them to safeguard their rights and effectively bargain for their interests (Kelly 2012).

Policy interventions should therefore focus on intensifying rice production and increasing on-farm yield to reduce production costs, Improving quality and standard of rice and reducing post-harvest losses, facilitating rural enterprises and businesses especially in small mills to sustain productivity, incomes and employment and strengthening human and institutional capacities to support the production, processing and marketing of rice competitively in Nigeria.

The contribution smallholders already make to food production is significant, despite the enormous limitations they face in accessing and using new technologies, inputs and technical support, as well as in accessing output market opportunities. The potential returns of addressing these limitations and fostering a rural business environment where smallholders are linked with larger agribusinesses are expected to be significant in terms of improving food security, boosting rural incomes and increasing the profitability of agribusinesses.

4.1 Recommendations

4.1.1 Production/ Productivity Enhancement in Agricultural Value chains

Issue of perception is to be corrected, there is a need to re-orientate FO's (processors) to adopt agriculture as a business. This can be achieved through the incorporation of well-structured trainings appropriate for impacting the skill sets required in agricultural value chains. Vocational trainings such as the use by-products as other sources of revenue generation and creation of employment opportunities, methods of strengthening weights and measure capacities in order to

track productivity through farmers' viability should be encouraged, as this will enhance capacity development and make agriculture a more attractive venture.

4.1.2 Participation and Adoption

Youth participation in agriculture should be promoted through the creation of awareness on agricultural production to encourage active participation for enhanced productivity and unprecedented level of improvement at societal, environmental and economic level.

Adequate participation increases understanding and helps to appreciate the principles of agricultural value chain as a means of identifying viable business opportunities by value chain actors. In addition, provision of production inputs to processors through institutional sources should be made in good time, in enough quantities and at affordable cost through their functional groups for regular disbursement of soft loans at a prime time and low interest rate. Adoption enhances stringent quality standards and competitiveness of value added agricultural products.

4.1.3 Government and Relevant Stakeholders

Insufficient field extension staff creates gaps in productivity enhancement, this is to be addressed in order to make all logistics available and provide avenues for extension training by sponsoring the workers to attend seminars, workshops, and technology review meetings, On-Station/On-Farm adaptive research that serves the need of the rural processors and their families as they are more relevant to the processors' circumstances. Resuscitate diffusion of innovation channels by making the extension agents to become more competent and confident in using the information sources to solve their problems using the general information.

The role of cooperatives cannot be over emphasised, there is a need to revive farmer's cooperatives to become more functional with emphasis on farmer's participations, trainings on the advancement and sustainability of the cooperative societies should be carried out at local government level as cooperative societies plays a major role in financing agriculture.

The technological packages should be simplified to fit into farmer's circumstances and ensure strict compliances. Relevant stakeholders should take cognizance of all aspect of processors production system and economic behaviour when developing technologies, encourage farmers and processors involvement in technology development and delivery. This will enable them not to use the technology just because it is available, but because there are genuine advantages in

doing so. The establishment of new comprehensive rice processing mills that will deliver high quality parboiled milled rice that can compete favorably in both domestic and export markets as a means of expanding Nigeria's processing capacity should be encouraged. In addition, standards, grades and branding of domestic rice should be developed to accelerate the attainment and sustenance of desirable quality that will compete with imported rice.

Continuously seek to foster Public-Private-Partnerships (PPPs) by forming new alliances in order to ensure adequate engagement in production processes that informs future interventions.

There is a need to incorporate advocacies to convince Nigerian consumers that the domestic rice industry can deliver commodity that is comparable to the imported rice, as this will lead to trade expansion and ultimately open up the export sector.

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APPENDIX

Appendix 1: Summary of Focus Group Discussion Findings.

CLUSTER	IFAD INTERVENTION	ACHIEVEMENTS	CHALLENGES
Kanko: 22 farmer organizations- 11 youth group, 5 women group, 6 mixed group	-Training at local, state and interstate levels. -Pre-season training -Planning of farming activities -Nursery establishment in sequence -Rice seedling multiplication -Rice memorandum of understanding with off takers -Smart climate reader -Solar powered bird scaring equipment.	-Diversification of production -Expansion of new site, 30 ha of land -Production of rice without stones -Increase in income -Reduction in post-harvest losses	-Poorly drenched dam with spoilt water gate -Lack of storage facilities -Spraying chemicals poses health risks -Lack of electricity leads to delay in milling thereby causing odor.
Lokogoma: 11 farmer organization- 6 youth groups, 4 processing groups, 1 mixed group	-Pre-season training -Training on innovative platform: Vitamin A cassava value chain, use and handling of sprayer and record keeping. -Capacity building training -Access to smart climate reader -Off takers sign MOU.	-Diversification in production -Increased production	
Bankorogi cooperative society: 25 members- 22 male, 3 female	-1 ha of cassava demo plot in December 2015. -40 ha cleared for land development. -Supply of inputs such as herbicides, stem cutting, pesticide etc. at 50% matching grant.	-7 pick-up load sold at #20,000 each, 1 pickup for consumption. -They made more profit. -They are able to send their children to school. -There is a cordial relationship between the farmers, LGA, EA and other liaison officers.	-Insufficient stem cutting for expansion - No access to e-transaction, but are ready to upgrade as they expand.
Bankorogi	-Training on good	-Process cassava into	-Lack of processing

Gusati: 25 members- 24 female, 1 male (group secretary)	agronomical practices. -Training on farmers field and business school. -Training on strategic development plan.	garri, cassava flour and fufu. -They made more profit. -They are able to send their children to school.	equipment, but they are contributing money in the bank in order to meet up with the matching grant. -Little or no processing as there is high preference for the new variety which is yet to be harvested.
Zaworo Rice processing mill, Masaga: 20 members- 7 female, 7 male youth, 6 middle aged male	-Regular advocacy and sensitization of rice processing. -Human resource utilization -Construction of 13 apartment warehouse for the cluster -Comprehensive rehabilitation of rice mill factory. -Provision of modern milling equipment at 70:30 matching grant. -Full encouragement of women and youth in their activities.		
Zaworo Cluster at Eporodo Esoji area: 25 members- 8 female youth, 17 adult.	-Training on the use of false bottom technique. -Linkage with development partners-Low energy cooking stand. -Supply of processing equipment such as destoner, bag sealer, weighing scale.	-Increase in level of income. -Improvement in livelihood. -Increase in quality and quantity of produce. -Processes 1 MT/day=13 bags (75kg each) of paddy to get 20-21 bags of 25kg each and sold at ₦8000/bag. -Profit made from 1mt ranges between ₦20,000 to ₦25000.	-They lack rice dryer, polisher and water tank.
Albarka Garri Processing	-Training on good record keeping. -Training on proper analysis making	-Money gotten from shaft sold is used to pay the engineer with additional money added. -Money saved was used to construct a drying	
Zayeka cooperative.	-50ha land development.		-Consistency -Weather

Cassava production.	- Supply of input such as fertilizer and herbicides. -Boost interest of youth group	slab and to purchase a diesel engine milling machine.	
Patorogi Rice Production: 13 producer group	-Training on rice seed multiplication at IITA Ibadan -Construction of 5kn access road at 90:10% matching grant.		
Baale cassava farmers: 25 members- 11 adult male, 8 youth, 6 female youth	-Received training at Abeokuta on how to cultivate between 9-12 months rather than 2 years formerly practiced. -Assistance to cultivate 20ha of land for cassava production. -Organized trainings, meetings and workshops. -Land clearing at 90:10% matching grant. -Supply of input at 50:50%.		
Batavovogi	-Youth training on the use of power tiller. -Job creation and empowerment.		
Shabawoshi Rice processing centre: 25 women members- 13 youth, 12 adult	-First processing centre in Katcha LGA with a destoner. -Received training on the use of false bottom, weighing and packaging. -Capacity building on entrepreneurship -Training on the use of energy saving stove.	-18 members have gone on pilgrimage. -2 members have completed their 4 bedroom flat construction. - The children have sponsorship to higher institutions. -Profit level has increased by 56%	

Appendix 2: Niger State VCDP Implementation

i. Regular advocacy and sensitization of rice processing.
ii. Human Resource Utilization.
iii. Training on strategic development plan.
iv. Construction of apartment warehouse for clusters.
v. Comprehensive rehabilitation of rice mill factory in Bida LGA.
vi. Provision of modern milling equipment at 70:30 matching grant.
vii. Capacity building on entrepreneurship.
viii. Linkage with development partners for low energy cooking stand.
ix. Supply of processing equipment such as destoner, bag sealer, weighing scale.
x. The program has trained 150 women on the right use of false bottom technology from Shiroro, Kontagora and Kanko communities.
xi. The processing of registration number with NAFDAC and SON is ongoing for the processors.
xii. Harvest plus trained VCDP processors on the processing of Vitamin A cassava into garri, fufu, custard, pudding (moi moi), snacks (combo bits) and baby food.
xiii. Training of FO's on processing of quality garri at Lokogoma cluster, Wushishi LGA by Bruce Crew limited.
xiv. Construction and rehabilitation of cassava processing centres in Lokogoma.
xv. Construction of rice processing centres at Shabawoshi.
xvi. Construction of warehouse/ rehabilitation of Zaworo rice mill at a 70:30 matching grant.
xvii. Out of 6 boreholes, 4 are drilled and 3 have been installed.

Challenges

i. Inadequate office accommodation.
ii. Low level of literacy of the beneficiaries.
iii. Inability of the programme beneficiaries to meet their matching grant obligations (50% for input, 30% for equipment).
iv. Untimely and inadequate payment of counterpart funds by the State government.
v. Under reporting of field activities.

Figure 5: Group Discussion at Wushishi Local Government Area, Niger State.

Figure 6: False bottom equipment

Figure 7: Aluminum Pot used for parboiling

Figure 8: A destoner used by Shabawoshi Rice processors

Figure 9: Drying slab in Zaworo Rice mill, Bida

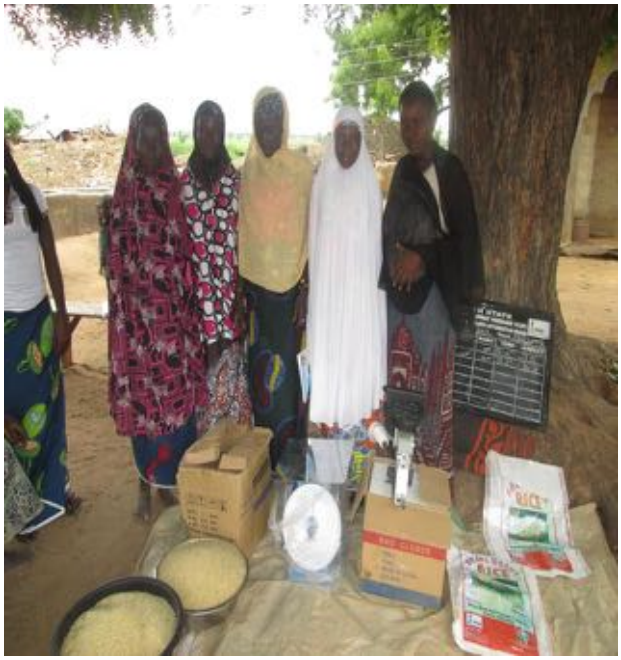

Figure 10: Packaging materials at Shabawoshi Kpaya cluster, Katcha Local Government Area.

Figure 11: Researcher with non-beneficiaries in Bida Local Government Area.

Figure 12: Rice processing equipment at Onxy Rice mill, Bida, Niger State.

Figure 13: Researcher administering questionnaire at Emiworo village, Katcha LGA.

ASSESSMENT OF ADOPTION OF INNOVATIVE RICE PROCESSING TECHNIQUES BY WOMEN AND YOUTH PROCESSORS IN VALUE CHAIN DEVELOPMENT PROGRAMME. NIGER STATE, NIGERIA.

Form No: ----------

QUESTIONNAIRE

I am Adika Tolulope Deborah, a postgraduate student of Sustainable Development Practice at the University of Ibadan, Nigeria. I am conducting an assessment on the adoption of innovative rice processing techniques by women and youth processors in Value Chain Development programme, Niger State, Nigeria. You are highly encouraged and persuaded to respond to the statements in this questionnaire in the most truthful and objective way. Your participation in facilitating this study is highly appreciated.

Kindly tick the correct answer in the space provided or supply the required information, where necessary, please specify and/ or elaborate.

SECTION A: BACKGROUND INFORMATION

1. Name of Respondent: …….
2. Name of Village: ……
3. Name of L.G.A: ……..
4. Name of Farmer's organization: …….
5. Name of Cluster: …….
6. Phone Number: ……...
7. GPS Position: Latitude ……. Longitude …… Altitude ……. (Meters)

SECTION B: SOCIO- ECONOMIC CHARACTERISTICS OF RICE PROCESSORS.

8. Sex: Male ( ) Female ( )
9. Age Range: Less than 20 ( ) 21-30 ( ) 31-40 ( ) 41-50 ( )
10. Marital Status: Married ( ) Single ( )
11. Educational Status: Primary ( ) Secondary ( ) Adult Education ( ) Post-Secondary ( ) Non Formal Education ( )
12. Household size: ……..…
13. Do you have other dependents? Yes ( ) No ( )
14. If Yes, how many? ……
15. How long have you been involved in agricultural activities? …… Years
16. Have you had any visits from extension agents in the last six months? Yes ( ) No ( )
17. If yes, how many times were you visited by the extension agents with information on innovative rice processing techniques? .....
18. Where do you source for financial services?

SN	Financial Service Provider	Savings	Credit facilities	Amount ₦	Interest Rate	Period
A	Commercial banks					
B	Bank of Agriculture					
c	Microfinance					
d	Cooperative Society					
e	Local Money Lender					
f	Esusu					

19 What is the nature of your engagement in agricultural value- chain?

a. Full-time ( ) b. Part-time ( ) c. Others (please specify): …….

20. What is your source of water for processing? Well water ( ) Borehole ( ) Stream or River ( ) Rain ( ) Pump ( )

21. Where do you source for raw material(s) used for processing? Producers ( ) Retailer ( ) Wholesaler ( ) Aggregators ( ) Cooperatives ( ) Open market ( ) Government Agencies ( )

22. Do you have access to or benefited from the following value chain services or support last farming season? (Tick as appropriate)

(a) Market Information Yes ( ) No ( )
(b) Quality Control and Standardization Yes ( ) No ( )
(c) Linkage to Market/Off-taker Yes ( ) No ( )
(d) Value Addition Technology promoted on rice Yes ( ) No ( )
(e) Capacity building on Business and Enterprise Management Yes ( ) No ( )
(f) Training on Infrastructure Management Yes ( ) No ( )
(g) Processing waste management Yes ( ) No ( )
(h) Certified rice seeds Yes ( ) No ( )

SECTION C: Factors influencing youth/women participation in agricultural value chain programme.

Youth/women Awareness- Please indicate in the column (tick as appropriate)

SN	Questions	Categories	Tick
23	Who offers trainings on agricultural projects in this region?	Non- Governmental Organization	
		Government of Nigeria	
		Private Sector	
		None	
24	How many trainings organized by any of the actors stated in question 23 above have you attended?	1-5	
		5-10	
		More than 10	

25. Indicate your level of agreement with the following statements that relate to influence of **youth/ women awareness** on agricultural value chain projects.

SN	Statement	Yes	No
a	Do local agricultural department frequently organize training for the youth/women?		
b	Does the training and topics covered adequately meet the needs of youth and women?		
c	Do youth/women always attend extension training sessions?		
d	Do they have access to various sources and types of information used to implement agricultural projects successfully?		
e	Are there extremely low local community awareness and involvement in youth/women oriented programs?		

Perception of youth/women on agriculture.

26. Please indicate your level of agreement with the following statements that relate to the influence of **perception of agriculture** on participation in agricultural value chain projects in Niger state, Nigeria.

SN	Perception	Strongly agree	Disagree	Neutral	Agree	Strongly agree
a	Youth/women engage in agricultural activities in Niger State					
b	Youth/women aspire for a career in agriculture					
c	Youth/women see agriculture as a low status profession					
d	Youth/women perceive agriculture to be a profitable venture					
e	Youth/women in Niger state appreciate agriculture as a source of income					

Youth/women Access to Social Capital

27. Please tick in the column as appropriate.

SN	Question	Categories	Tick
a	Are you a registered member of any youth/women group that engages in agricultural activities?	Yes	
		No	
b	If you ticked yes for question 'a' above, state the number of groups in which you are a registered member.		

28. What type of association is your group (s) registered with? Please tick as appropriate.

SN	Association	Registered	Number of members
a	Self-help group		
b	Community based organization		
c	Cooperative society		

29. Indicate your level of agreement with the following statements that relates to influence of **Youth/women access to Social capital** on their participation in agricultural value chain.

SN	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
a	Youth/women are registered as members in groups engaged in agricultural activities					
b	Youth/women network regularly with members of other agricultural groups					
c	The groups offers adequate social support e.g. access to credit, market information.					
d	There is a shared/ common value among the group member					
e	There is trust among Youth/women group members					
f	The group receives support from the community					

Economic Factors

30. Please tick in the column as appropriate.

SN	Statement	Categories	Tick
a	What is the size of land available for you to carry out agricultural processing activities?	Less than 1 acre	
		1-3 acres	
		3-5 acres	
		More than 5 acres	
b	What is the distance to the nearest market for your agricultural produce?	Less than 60 minutes	
		1-2 hours	
		2-3 hours	
		More than 3 hours	
c	What is the status of the road network from your production site to the market?	Deteriorated greatly	
		Deteriorated a little	
		It has not changed	
		Improved a little	
		Greatly improved	
d	To what extent does access to credit influence your participation in agricultural value chain in Niger State, Nigeria?	Very great extent	
		Great extent	
		Moderate extent	
		Small extent	
		Not at all	

SECTION D: Socio- Economic impacts of adopting innovative rice processing techniques.

31. What is the level of impact attained in adopting rice processing techniques?
Please **tick** as appropriate.

SN	IMPACT	VERY HIGH	HIGH	AVERAGE	VERY LOW
a	Quality				
b	Quantity				
c	Standardized production (Quality control)				
d	Household Income				
e	Asset ownership				
f	Infrastructure management				
g	Trade promotions				
h	Capacity building				
i	Access to innovative platforms				
j	Access to market information				

32. What is your enterprise monthly processing capacity?

Installed Capacity (kg)	Actual Capacity (kg)

33. Income from Rice processed monthly.

Quantity of raw materials purchased (kg)	Cost incurred on purchase (₦)	Quantity of raw materials processed (kg)	Quantity sold (kg)	Average sales(₦)

34. Input used for processing

SN	Input	Quantity purchased	Unit price(₦)	Total amount on purchase(₦)
a.	Labour			
b.	Energy source			
c.	Paddy			
d.	Water			
e.	Procurement and maintenance of equipment			

SECTION E: Constraints for youth engagement in agribusiness?

35. Please indicate your level of agreement with the following statements as they relate to the constraints for youth engagement in agribusiness.

SN	Constraints	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
a	Inadequate capital					
b	Inadequate resources					
c	Lack of market					
d	Poor and inaccessible roads					
e	Lack of technical know-how					

SECTION F: Adoption of innovative rice processing techniques.
(Tick multiple points in Section F)

36. Which of these innovative processing techniques have you adopted?
   a. False bottom ( )
   b. Destoner ( )
   c. Stitching Machine ( )
   d. Weighing Scale ( )

e. Packaging Materials ( )
f. Rice Mill ( )
g. Flatbed dryers ( )
h. Weather Smart Climate Reader ( )
i. Threshers ( )
j. Moisture meter ( )
k. Aluminum pot
l. Drum

37. List the other equipment you are using for processing.
……

38. What are the reasons for adopting the innovations listed above?
a. Simple to use ( )
b. Processes large quantity at a time ( )
c. Processing operations are faster ( )
d. Processes quality products without stones ( )
e. It is less tedious ( )
f. It increases the commercial value of product ( )

SECTION G: Constraints to the Adoption of Innovative Rice Processing Techniques.

39. What are the constraints to the adoption of the innovative rice processing technique in your area?

SN	CONSTRAINTS	VERY SEVERE	SEVERE	NOT SEVERE	INDIFFERENT
a.	Insufficient funds				
b.	Insufficient equipment				
c.	Addition of extra cost in production				
d.	High cost of labour				
e.	Time is wasted when reading and adjusting measurement on the weighing scale				
f.	Processing hazards				
g.	Lack of good market				
h.	Poor extension services				
i.	Poor leadership in the group				
j.	No difference in selling price when conventional method is used				
k.	Lack of storage facilities				
l.	Inadequate rural infrastructure				

Thank you very much.

Enumerator's Name: ……..

Signature: ……..