
CAPACITY BUILDING SKILLS OF RURAL CASSAVA FARMERS AS A STRATEGY FOR ENHANCING FOOD SECURITY AND LIVELIHOODS IN NIGERIA. (A CASE STUDY OF RIVERS STATE)

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ABSTRACT

This study focused on capacity building skills needed by cassava farmers for improved value addition in cassava production in Rivers State. A descriptive survey design was adopted for the study. Three research questions guided the study. The sample for the study was one hundred and twenty-six (126) made up of 101 cassava farmers and 25 extension agents randomly selected. A 27 skill item questionnaire was developed from literature reviewed. The instrument was validated and reliability established using test-retest and coefficient of 0.83 values. One hundred and twenty-six (126) copies of the questionnaire were administered on the respondents and all the copies of the questionnaire were retrieved and analyzed using weighted mean and standard deviation. It was found out that cassava farmers required capacity building skills in agro-technology, planning, and marketing for improved value addition in the cassava processing enterprise. It was recommended that for improved value addition and profitability in the value chain, Rural women should be trained on the identified needed skills by extension agents through seminars and workshops, educational enlightenment programmes should be initiated to help them see reasons for improved value addition in cassava production, and government should provide inputs, material resources and deployment of qualified extension agents to the rural areas for training on use of modern agro-technologies for conversion of cassava roots to other improved products/inputs.

Keywords: Capacity Building Skills, Value addition, Cassava Products

1. INTRODUCTION

Nigeria accounts for 19% of world output and 34% of Africa's output (Ezike, Nwibo, and Odoh 2011). Cassava (*manihot esculenta*) is an important staple crop cultivated in the southern part of Nigeria (Ojiaku, Asumugha, Ezedinma and Uzokiwe, 2007). It is variously grown by poor farmers, mostly women who intercrop cassava with yam, maize plantain among others (Ikwelle, Ezulike, and Eze, 2003). Cassava is a preferred staple food compared to cocoyam and yam, because it yields more heavily and requires less input (Okoye, 2009).

Cassava plays a key role in African development as a famine reserve crop, rural food staple, cash crop for urban consumption, and raw materials for livestock's and industries (Nweke, Spencer, and Lynam, 2002). Cassava does well on poor and marginal soils in comparison with other root crops (Alabi and Alabi, 2002). It has become the most important root crop in tropical Africa

providing food for over 200 million people, International Institute of Tropical Agriculture (IITA, 1992). In Nigeria cassava is majorly produced for human consumption and only about 5% goes for industrial raw materials (Ajayi and Onuche, 2005). Cassava could be processed into various forms such as gari, fufu, cassava flour and starch (Odurukwe Njoku and Ugochukwu., 2003,). In industries, cassava could also be processed into alcohol, pharmaceutical gum and confectionaries (Okonkwo, 2002).

Studies have shown positive correlation between adoption of extension recommendations by farmers and crop yields which translate into increased income and improved quality of life of farmers (African rice centre, 2007). Similarly, Emenyonu, Odii, and Onyeagbocha, (2005) reported significant difference between cassava yield of farmers who have adopted improved cassava production technologies and those who have not in Delta state. However, for a successful adoption of a technology, farmers must not only know about it, but must be able to follow the recommendation given (Adekoya and Tologbonse 2005).

Rural farmers play central roles in cassava production, processing and marketing. They are responsible for cassava production which provides additional income earning opportunities, and enhances their ability to contribute to household food security (Ojuekaiye, 2001). Agricultural produce are known to be highly perishable, hence most rural farmers do not get the required or desired reward for their work, as most of their produce are lost a day or two after harvest. Based on this the National Root Crop Research Institute (NRCRI) Umudike which had the national mandate to research into root and tuber crops developed some processing technologies to reduce the perishability of the products and add value to them. The essence is to ensure that root and tuber crops can be put to wider uses in the home, for income generation and probably for export purposes.

Through value addition farmers can take their products one or more steps up the vertical ladder of processing and marketing. By taking greater responsibility for their products as they move to the final consumer, more smallholder farmers will be capturing some if not all of the profits that others had previously taken and thereby leveraging on the numerous opportunities in the cassava value chain. A country's ability to perform successfully as a major player or participant in agricultural and food trade in the international forum may depend more on the way it integrates into the processed product sectors. Furthermore, increasing exports of processed products has the potential to expand employment and income opportunities beyond the farm gate (Liapis, 2011). Creating new or higher quality cassava products through processing or value addition and developing new trading partners, can spur productivity and economic growth.

It has been reported that food crops constituted the largest component of the crops sub-sector of Nigeria's agricultural sector, (Central Bank of Nigeria , 2003, Anyanwu, 2011). It has also been argued that the disproportionate growth in Nigeria's agricultural sub-sectors (crops, livestock, forestry, and fishing) which saw the predominance of the crop sub-sector over others were induced by macro-economic policies that placed much premium on food crop production (Anyanwu, 2013). This apparent imbalance could be corrected by prioritizing the value addition strategy, especially at the farm gate through the creation of institutions saddled with the responsibility of promoting value addition to agricultural commodities.

Value addition in agriculture is a process of increasing the economic value and consumer appeal of raw agricultural commodities. It is a marketing strategy that requires a better understanding of the rapidly changing consumer preferences in the food industry as well as their safety needs. Value addition entails taking any product from one level of use to the next. There are very few items that a Nigerian small-holder farmer at the prevailing level of technology can produce and sell profitably at the farm gate.

The significance of value addition or processing of agricultural commodities appears to have been captured in the objectives of the new Nigerian agricultural policy of increased production and processing of export crops, using improved production and processing technologies; processing commodities and accelerating the growth of the agricultural sector; and preservation of commodities to reduce waste and seasonal price fluctuations (FMAWR, 2001).

Therefore, value-addition strategy is not only critical but indispensable to the long-term survival of most smallholder farms and a missing link in Nigeria's agricultural development. Many creative smallholder farmers can increase their profitability by vertically integrating their operations rather than simply expanding horizontally by increasing their volume of production, thereby leveraging on the numerous opportunities in the cassava value chain through capacity building.

Capacity building is explained by Abdullahi and Ajoku (2001) as a concept that is concerned with creating or enhancing the ability of a society to perform specific tasks and attain national development objectives. They further stated that capacity building is the process of developing and strengthening the skills, instructions, abilities, processes and resources that organizations and communities need to survive, adapt and thrive in the fast changing world. Capacity building is improving a process to make it more effective, efficient and adaptive (Harrington 1991). He also explained capacity building as the updating of the initial or originally acquired knowledge and skills to enable an individual perform better than he used to do. However, in reality capacity building activities are rarely implemented on a routine basis but usually linked to some major changes in the organization's environment or to some points in time when an organization considers its medium and long-term strategic options and initiates changes accordingly. (PIND, 2011).

The fact that large quantity of cassava is produced in Nigeria and the nation is yet to fully harness the value of the crop in terms of products of both food and industrial value with higher monetary return, is an indication of lack of capacity building among producers. This is because most of our cassava farmers lack the needed capacity to add value to cassava products. To avert this situation, cassava producers require capacity building. But the question is; what are the capacity building needs of these cassava farmers that could enable them add value to cassava products? This therefore underscores the reason for the research.

Purpose of the Study

The main purpose of the study is to assess capacity building needs of rural women for improved value addition in cassava products in Rivers State. Specifically, the study tends to:

1. Determine the technological needs of rural women for improved value addition in cassava products in Rivers State.

2. Assess the planning needs of rural women for improved value addition in cassava products in Rivers State.
3. Determine the marketing needs of rural women for improved value addition in cassava products in Rivers State.

Research Questions

Three research questions were formulated to guide the study:

1. What are the technological needs of rural women for improved value addition to cassava products in Rivers State.?
2. What are the planning needs of rural women for improved value addition to cassava products in Rivers State.
3. What are the marketing needs of rural women for improved value addition to cassava products in Rivers State.?

2. METHODOLOGY

This study adopted a descriptive survey research design. The population of the consisted of eighty-four (84) extension officers and three hundred and Eighteen (318) registered cassava farmers in Rivers State giving a total population of 402. (Rivers State Ministry of Agriculture and Natural Resources, Port-Harcourt). A simple random sampling technique was used to select 126 respondents, (25 extension agents and 101 women cassava farmers). The research instrument used for collection of data was a structured questionnaire which was validated by experts and a reliability coefficient of 0.78 was established using Cronbach Alpha technique. Copies of the instrument were administered by the researcher, and three research assistants. Mean and standard deviation were used to answer the research questions, with a criterion mean of 3.00 from a 5-point scale of agreement established as the benchmark for acceptance of variables considered.

3. RESULTS AND DISCUSSION

Research question 1. What are the technological needs of rural women for improved value addition to cassava products in Rivers State.?

Table 1: Mean ratings on the technological needs of rural women (cassava farmers) for improved value addition in cassava products.

S/N	Statement Items	Rural Women			Extension Agents		
		\bar{X}	SD	Remarks	\bar{X}	SD	Remarks
1	Identification and use of Improved high yielding cassava varieties	3.23	0.63	Accepted	3.25	0.71	Accepted
2	The knowledge and technical skill to use of agro-machines	3.35	0.48	Accepted	3.33	0.86	Accepted
3	The knowledge and skills on the use of fertilizers	3.07	0.36	Accepted	3.70	1.03	Accepted
4	The knowledge and skill to use of insecticides	3.51	0.84	Accepted	3.01	0.89	Accepted
5	To determine appropriate plant spacing	3.19	0.82	Accepted	3.54	0.45	Accepted
6	The knowledge and training on processing of cassava into ethanol.	3.05	0.71	Accepted	3.03	0.96	Accepted
7	The knowledge and skills on processing of cassava into chips	3.30	0.51	Accepted	3.41	0.45	Accepted
8	The knowledge and skills on processing of cassava into flour	3.06	0.71	Accepted	3.23	0.71	Accepted
9	The knowledge and skills to use of herbicides.	3.61	0.37	Accepted	3.77	0.40	Accepted
10	The knowledge and skills on processing of cassava into odourless fufu	3.86	0.34	Accepted	3.46	0.80	Accepted
	Grand mean(\bar{x})/SD	3.32	0.58		3.37	0.73	

Source: Field work 2018

The data presented in Table 1 show that all the identified items accepted with mean ranging from 3.05 to 3.86. This indicates that cassava farmers need capacity building in the identified areas.

Research question 2. What are the planning needs of rural women for improved value addition to cassava products in Rivers State.

Table 2: Mean ratings on the planning needs of cassava farmers (women) for improved value addition to cassava products in Rivers State.

S/N	Statement Items	Rural Women			Extension Agents		
		\bar{X}	SD	Remarks	\bar{X}	SD	Remarks
1	To formulate specific objectives for cassava processing enterprise	3.61	0.37	Accepted	3.77	0.40	Accepted
2	To understand market trends and changes in demand and supply	3.22	0.68	Accepted	3.36	0.81	Accepted
3	Ability to identify risk factors and manage them effectively	3.54	0.59	Accepted	3.01	0.96	Accepted
4	To identify appropriate material resources for cassava processing enterprise	3.37	0.64	Accepted	3.01	1.13	Accepted
5	To identify appropriate personnel for cassava processing enterprise	3.86	0.34	Accepted	3.46	0.80	Accepted
6	To decide on the market strategy to sell products	3.52	0.93	Accepted	3.50	0.67	Accepted
7	To assess the in-flow of capital and other inputs	3.56	0.90	Accepted	3.21	0.69	Accepted
8	Ability to maintain accurate record of operations.	3.80	0.88	Accepted	3.77	0.40	Accepted
9	Ability to organize activities and assign responsibilities	2.46	0.46	Rejected	2.57	0.84	Rejected
Grand mean (\bar{x})/SD		3.33	0.64		3.20	0.76	

Source: Field work 2018

The data presented in Table 2 shows that out of the 9 statement items, with the various mean scores of , 3.86, 3.52 and 3.56 in statement item 1 2, 3, 4, 5, 6 and 7 which states that there is need to formulate specific objectives for cassava processing with mean score (3.61) , to understand market trends and changes in demand and supply(3.22), to decide on the cassava end product to add value for the market based on consumer’s needs (3.54) and to identify appropriate material resources for use in the enterprise (3.37) amongst others, are areas where capacity building skills is highly required, while item 9 which states ability to organize activities and assign responsibilities with mean score (2.46) shows that the respondents need less training in that area.

Research question 3. What are the marketing needs of rural women for improved value addition to cassava products in Rivers State.?

Table 3: Mean ratings on the marketing needs of cassava farmers (women) for improved value addition to cassava products in Rivers State.

S/N	Statement Items	Rural Women			Extension Agents		
		\bar{X}	SD	Remarks	\bar{X}	SD	Remarks
1	Ability to evaluate your services to customers to determine improvement.	3.09	1.17	Accepted	2.62	0.81	Accepted
2	Ability to grade and measure cassava products in bags, basins and baskets of different sizes	3.35	0.43	Accepted	3.53	0.45	Accepted
3	To identify markets for sale of products according to their types	3.67	0.11	Accepted	3.40	0.82	Accepted
4	To have knowledge of product branding	3.54	0.64	Accepted	3.03	0.79	Accepted
5	To have knowledge of feedback process from customers	3.05	0.96	Accepted	3.15	0.50	Accepted
6	To identify consumers	2.61	1.70	Rejected	2.70	1.71	Rejected
7	To evaluate financial transactions	3.45	0.62	Accepted	3.50	0.31	Accepted

8	To grade and measure products according to weight and quality	3.27	0.48	Accepted	3.04	0.79	Accepted
9	Ability for warehousing and storage	3.31	0.68	Accepted	3.82	0.34	Accepted
10	To identify appropriate method of packaging products	3.08	1.40	Accepted	1.40	0.76	Accepted
Grand mean (\bar{x})/SD		3.24	0.82		3.00	0.74	

Source: *Field Work 2018*

Data in Table 3 shows that statement items 1, 2, 3, 4, 5, 6, 7, 8 and 10 which states that there is need for evaluation of their services to customers in order to determine improvement, to have the skills on grading, and measurement of the different products processed to ensure accuracy, to identify markets for sale of value added products and to select product line of entering the market and to identify packaging procedures and style amongst others shows that rural women need capacity building skills while in statement item 9 with mean score of 2.61 which states ; to assess exchange rate and currency conversion needs less training or capacity building skills.

Summary of Findings

1. It was found that all the identified skills for agro-technology, were required by cassava farmers, for improved value addition in cassava production
2. It was found that eight (8) skills were highly required by the cassava out of the nine (9) mentioned skills in planning for improved value addition in cassava production
3. It was also found that nine (9) out of the identified ten (10) skills in marketing of value added products were required by cassava farmers.

Discussion of Findings

The results of the data analysis are discussed below on the basis of the research questions. The findings on research question 1 showed that the respondents agreed to the statement items that to understand the technical know-how on use of Improved high yielding cassava varieties, to acquire the technical knowledge on the use of tractor and skills on the use of insecticides, and to acquire training on processing of cassava into value added products such as ethanol, chips, flour etc were aspects in which capacity building skills was highly required indicating that good use of new improved technology can enhance cassava value addition. This finding is in support of Maduekwe (2008) who opined that more efficient farming is brought about by new technology and this could lower cost of production and thus enhance the competitive position of agricultural products on the international market.

The findings in research question 2 shows that outside the technological needs, the cassava farmers had planning needs such as a need to revise the objectives of the cassava enterprise

periodically as occasioned by change in market demands and consumers taste, a need to decide on the cassava end product to add value based on consumer's needs, a need to identify appropriate material resources for use in the enterprise, a need to decide on the market strategy to sell products and a need to assess the in-flow of capital and other input are capacity building areas required by cassava farmers. These finding is in conformity with the findings of Okafor, Okeme and Oketoobo (2010) in a study on entrepreneurial skills required by secondary school graduates in palm oil processing in Anambra State, where it was found out that secondary school graduates required 10 skills in planning for oil palm processing.

Findings on research question 3 showed that cassava farmers in their responses on marketing needs indicated a need to identify packaging procedures and style; a need to identify markets for sale of value added products and to select product line of entering the market and others as highly required. This finding is conformity with the findings of Ibrahim (2009) who carried out a similar study on entrepreneurial skills required by secondary school graduates on rice production enterprise in Kwara State and out of skills itemized for marketing, two skills such as selling to buyers, record keeping were in line with the skill items for marketing of cassava value added products.

4. CONCLUSION

Based on the findings, it was deduced therefore:

That women cassava farmers needed capacity building in the following skill areas in cassava processing agro-technology, planning, and marketing, and as such needed capacity building in order to enhance value addition in cassava products,

5. RECOMMENDATIONS

In accordance with the findings of this study, the following recommendations are made;

1. Government should build training centers/institutes in the rural areas, organize refresher courses from time to time for rural women on the need and importance of value addition in cassava production so that their skills are enhanced.
2. Rural women should be trained on agro-technology areas so that they acquire the requisite skills needed to add value to cassava products.
3. Rural cassava farmers (women) should be trained on the identified planning needs so that the farmers can successfully carrying out their planning operations.
4. Rural women cassava farmers should be trained on marketing skills and awareness of marketing opportunities and outlets be created by extension agents so that they can have actively participate.

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