

Overview of Acquired Skill Requirements in Crop processing/Marketing among Agricultural Education Graduates for Food Security in Rivers State, Nigeria.

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Abstract

The study investigated the acquired skills required in agricultural crop processing and marketing among graduates of agricultural education for food security in Rivers State. Two objectives and two research questions were formulated to guide the study. Descriptive survey research design was adopted for the study. The population of the study comprised of 30 agricultural education graduates of 2020/2021 academic session in the two universities of Rivers State. Due to the manageable size of the population, the entire population was used through census method. The instrument used for data collection is called Agricultural Education Graduate Processing and Marketing Skills Questionnaire which was subjected to face content validation by two experts from each of the universities used for the study. The reliability of the instrument was determined, using Cronbach Alpha Coefficient and a reliability index of 0.82 was obtained. Thirty (30) copies of the questionnaires were administered and were all retrieved. However, they were properly filled by the respondents which was used for data analysis. Data was analyzed using mean statistics and standard deviation. Findings show that agricultural education graduates possessed skills required in agricultural crop processing and marketing for food security in Rivers State. However, it is recommended that government at all levels should give agricultural education graduates access to agricultural loans/grants to enable them establish their crop processing/marketing enterprise as to contribute to food security.

Keywords: Agricultural Education, Crop Processing Skills, Crop Marketing Skills and Food Security.

Introduction: Nigeria with a population of 219,837,944 million people as reported by United Nations (2023) is highly in dear need of young people including agricultural graduates in the agricultural sector, since the older farmers are aging out in order to keep supplying the needed manpower required in the production of food for both human and animals, in addition to raw materials needs of the industrial sector. Integrating the young people into agricultural productivity such as crop and livestock production, including processing and marketing will help to cushion the effects of food insecurity in the nation, though they need skills that will guarantee efficiency and effectiveness in order to keep playing this key role in the society and also sustain their livelihood (Nwaagwugwu and Obele, 2017). Currently, the narrative has dramatically changed globally for professionals in the food and fiber industry due to advancement in technology (King, *et al* ; 2010).

Noel and Oenani (2013) in support of this view indicated that these changes was as a result of technological innovation that is needed for economic growth and global competitiveness. In addition, the technological changes has led to the demand of high quality skilled manpower in workplace. It has equally compelled policymakers to develop frameworks that mandate educational institutions to ensure they teach and equip learners with competent skills, capable of meeting the demands of the labour market in order to bridge the gap by enabling the young graduate

perform complex and ever-changing task in workplace (Noel and Oenani, 2013)

However, skill is described as the ability to perform a task either mentally or manually, involving the working out of a coordinated sequence (Green, 1995). The author added that skill is developed proficiency which may require training or develop as a natural gift for competence in performing a given task and as such, it is the manipulative tactics by which an act is performed accurately without any error. Therefore, the process of skill acquisition according to Williams and Ford (2009) is the science that enables the teacher to focus and control the learner on the domains by examining and guiding against the factors that will affect the acquisition, performance and retention of the skill in the learner. In consonance with this, agricultural education focuses on imparting of skills, knowledge and attitude in agriculture to the learner (Osinem, 2008). Encouraging youth and adults for agricultural education programme is essential because it will enhance successful performance of those entering into agriculture as a career (Cajethan and Benardin, 2015) Hence, there are various skills that learners will acquire which equips them with the pre-requisite knowledge, skills and competencies that could be used in creating jobs for their personal development and the nation at large (Amadi and Nnodim). This will also create a platform in meeting the needed skill manpower required in agriculture productivity thereby contributing towards national food security, poverty reduction and employment creation (Amadi and Raji,

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2021). Similarly, since the curriculum of agricultural education is to train learners on various skills in agricultural productivity, the outcome indicator of the programme is the extent to which learners are able to deploy skills in crop and livestock production including processing/ marketing of agricultural produce among others, upon their graduation as to combat food insecurity globally (Amadi and Solomon, 2020).

In contrast, it is necessary to mention that, despite the huge investment over decades in the agricultural sector globally, number of people are still suffering from hunger, poverty and malnutrition which Nigeria is not an exemption (Moussa, 2002). This may be perceived as lack of consciousness or neglect by government of most developing nations in developing and sustaining the agricultural production sector which also include crop processing and marketing industry.

However, it is imperative to acknowledge that agricultural crop processing is carried out in order to increase the market value as to enhance shelf-life or storage potential for better sales. In addition, reduce bulkiness and enhances easy transportation of some agricultural produce. This also will enable the producers or processors to sell their product when it is most profitable without fear of damage resulting from decay or rot thereby preventing the farmer from loss (Eze and Eze, 2010). Traditional processing of agricultural produce include threshing, shelling, winnowing, cleaning, grading, sieving, parboiling, husking or hulling, decorticating, milling, drying, sorting, and turning of commodity into another form. For instance, cocoa into butter or powder, palm nut and coconut into oil, cassava into flour, cheeps, starch among others (Eze and Eze, 2010). The authors added that in some developing countries like Senegal, groundnut shelling is operated on highly mechanized scale with competent skilled manpower and the by-product shells are used as fuel for the crushing operation. Furthermore, the access to processed or raw food as an agricultural produce by families or consumers is made available to them at the point of purchase through marketing, which graduates of agricultural education could take advantage immediately. Marketing of agricultural produce facilitates the transition from subsistence agricultural production to commercial. In the era of market deregulation and export promotion, marketing provide the enabling environment for farmers to increase production in order to earn foreign exchange as to develop their enterprise and families (Eze and Eze, 2010).

The role of marketing function may not be over emphasized hence, it requires that marketers should deliver the agricultural products to the point where families and other group of individuals can easily have access to them, such as market- places, warehouses and shops. This justifies the submission by World Food Summit of 1996 which declares that when all people at all times have access to sufficient, safe and nutritious food to maintain a healthy and active life, the goal of food security has been actualized. Thus, the concept of food security is viewed from the perception whereby individuals or families are able to physically and economically access food that meets their dietary needs, as well their preference for active and healthy living (Aliaga and **Overview of Acquired Skill Requirements in Crop processing/Marketing among Agricultural Education Graduates for Food Security in Rivers State, Nigeria.**

chaves- Dossantos, 2014). Although, it is reported in 2022 World Food Summit that about 260 million persons do have good access to food resulting from climate change, conflicts and COVID-19 pandemic thereby posing a great threat to global food security (Antony, 2022)

Agricultural Crop Processing Skills: Most agricultural crops are not suitable for direct delivery to the consumers when they are harvested as such need to be changed in some way before it can be used (Kohls and Uhl, 1990). The authors further stated that agricultural crop processing is a form of changing activity that increases the value of the product, apart from adding value, it also preserve the shelf use of the agricultural produce for a longer usage and reduce wastage resulting from spoilage. Processing of farm produce will give farmers the opportunity to sell their produce at the same time create employment opportunities to various sector of the economy.

Inadequate processing as reported by CITA, (1991) results in loss of about 50% of agricultural products produced from farm harvest which is usually recorded during harvest season. In order to improve food security, processing guarantee the availability of food, reduces hunger and seasonal rise in cost that exposes people to nutritional risk. Several new technologies and refinement of traditional procedures have emerge with innovations thereby transforming the traditional processing sector.

Duruga and Tribhwan, (2015) identified skills required for the processing of agricultural crops such as good reporting/documentation staff, excellent communication skill, ability to manage and motivate workers', ability to handle crises in workplace, ability to examine agricultural produce, skill of basic measurement, knowledge of sequence steps of machine/equipment operation, ability to adhere to operational guide of the machine, ability to operate the processing machine/equipment, skill to operate machine/equipment with the set parameter and ability to meet customer's demands with innovative package skill.

Agricultural Crop Marketing Skills: The term agricultural marketing comprised of two words: agriculture and marketing. Agriculture refers to all the primary activities undertaken by human using the natural resources in growing crops and raising livestock for the use of both man and animals. While marketing connotes the series of activities which involves moving goods from the point of production to place of utility (Kulkaini, 1964). When there is marketing role to play by individuals, it becomes necessary to have skills that will guarantee productive career in the marketing industry (Scott, 2019). The author, identified Income generation driven skill, Decision making skill, Time schedule management skill, Good customer relationship skill, Result oriented skills and Ability to understand the marketing channels and take advantage.

Agricultural marketing plays an important role not only in stimulating production and consumption but also in accelerating the pace of economic growth and development (Acharya and Agarwal, 2006). The author maintained that marketing promotes economic development in area of increased income to the farmer, growth of the agro-based industries, employment generation, additional national

income, and better standard of living that automatically guarantees food security among individuals. Marketing of agricultural produce requires some skillful strategies such as packaging and branding, private negotiation, open auction, broker, advertisement and cooperative marketing which will help to accelerate the entire marketing process (Monoria and Joshi, 1995).

Statement of Problem: Nigeria as a developing nation is currently struggling with the challenges of food insecurity, this may emanate from negligence on the part of government at all levels in developing the agricultural sector especially in the area of crop processing/marketing. The evidence of this was reported by Centre for International Agricultural Tropical (CIAT, 1991) which ascertained that 50% of products produced from farm harvest are usually loss as a result of inadequate processing and marketing skills and this in turn affects the income and economy of the farmers negatively thereby impoverishing them. Impressively, the curriculum of agricultural education as a vocational programme is designed to impart relevant skills, attitude and knowledge of agricultural productivity, which include crop processing/marketing skills and also the teaching of agriculture to learners (Osinem, 2008). Consequently, it is expected that upon graduation, these skills should be deployed by graduates to provide services in agricultural sectors that will earn him/her good standard of living, support the growth of the national economy and contribute meaningfully toward food security. The pertinent question is whether the skills so acquired by graduates in crop processing /marketing through agricultural education could really prevail on food security in Rivers State? The answer to this question makes a study of this nature crucial.

Objectives of the Study: Two objectives were formulated for the study and stated; To ascertain agricultural crop processing skills acquired among agricultural education graduates for food security in Rivers State; and to determine

agricultural crop marketing skills acquired among agricultural education graduates for food security in Rivers State. **Research Questions:** To what extent does agricultural education graduates acquired skills on agricultural crop processing for food security in Rivers State?; and to what extent does agricultural education graduates acquired skills on agricultural crop marketing for food security in Rivers State?

Research Methodology: The study was carried out in the two universities in Rivers State that are offering agricultural education. The study adopted survey design and the population of the study comprised of 30 first degree graduates of 2020/2021 academic year, who were prospective Youth Corps Members. With Ignatius Ajuru University of Education 18, and Rivers State University 12, both in Port Harcourt. The entire population was used for the study through census method since the population size is manageable. The instrument for data collection was titled "Agricultural Education Graduates Processing and Marketing Skills Questionnaire (AEGPMSQ)". The instrument was subjected to face content validation by two lecturers from Ignatius Ajuru University of Education and two from Rivers State University, their inputs were used to make modifications in the instrument. The values attached to the instrument in responding to the research items was 4-points rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE). Reliability of the instrument was ascertained using Cronbach Alpha Coefficient, and a reliability index of 0.82 was obtained. Thirty (30) copies of the instruments were administered to the respondents. All instruments administered were retrieved and properly filled which was used for data analysis. Data was analyzed using mean statistics and standard deviation. Item with weighted mean below 2.50 was considered as Low Extent while weighted mean of 2.50 and above was rated as High Extent.

Results Presentation

Table 1: Computation of responses on the agricultural crop processing skills that could lead to food security among graduates.

S/N	Agricultural crop processing skills	Ignatius Ajuru University of Education n = 18			Rivers State University n = 12			Mean of means
		\bar{X}_1	SD ₁	RMK	\bar{X}_2	SD ₂	RMK	
1.	Ability to access, sort and select good healthy farm produce	3.90	0.30	HE	3.88	0.31	HE	3.89 HE
2.	Good knowledge of proper hygiene	3.98	0.11	HE	3.90	0.30	HE	3.94 HE
3.	Accurate measurement skill	3.88	0.31	HE	3.87	0.33	HE	3.88 HE
4.	Processing machine/ equipment sequence steps of operation	3.97	0.15	HE	3.92	0.26	HE	3.95 HE
5.	Ability to process harvested crops using machine/equipment	3.92	0.26	HE	3.95	0.21	HE	3.94 HE
6.	Skill for value addition through processing/packaging	3.88	0.31	HE	3.87	0.33	HE	3.88 HE
7.	Ability to adhere strictly to operational guides	3.87	0.33	HE	3.95	0.21	HE	3.91 HE
8.	Ability to monitor temperature of	3.88	0.31	HE	3.92	0.26	HE	3.90 HE

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	machine or equipment using the set parameter								
9.	Excellent communication skill	3.97	0.15	HE	3.85	0.36	HE	3.91	HE
10.	Skill to manage and motivate workers	3.87	0.33	HE	3.91	0.28	HE	3.86	HE
11.	Documentations and records keeping skill	3.90	0.30	HE	3.87	0.33	HE	3.89	HE
Grand mean		3.91	0.26	HE	3.90	0.28	HE	3.91	HE

Source: (Field work, 2021)Where: HE = High Extent \bar{X} = Mean,SD=Standard Deviation N = Number of students.

Table 1, reveals the extent of acquired agricultural crop processing skill among agricultural education graduates for food security in Rivers State. Finding shows that all the agricultural education graduates are of high extent on the acquired agricultural crop processing skills for food security in Rivers State. The weighted mean indicate 3.90, 3.98, 3.88, 3.97, 3.92, 3.88, 3.87, 3.88, 3.97 and 3.90 for Ignatius Ajuru University of Education and 3.88, 3.90, 3.87, 3.92, 3.95, 3.87, 3.92, 3.85, 3.91 and 3.87 for Rivers State University respectively. With 3.91 as mean of mean, all the graduates are of high extent on the acquired agricultural crop processing skill for food security in Rivers State. Though, Ignatius Ajuru University of Education graduates, has the highest grand mean response of 3.91 on the extent of crop processing skill for food security when compared with Rivers State University that has 3.90. The standard deviation (SD) that ranges from 0.11 to 0.36 indicates closeness in the opinion of both categories of respondents.

This finding is in line with the submission of Nwaugwugwu and Obele (2017) who maintained that integrating the young people into agricultural productivity which include agricultural education graduates will help to cushion the effects of food insecurity in the nation, though the people who are non-graduates of agriculture need skills that will guarantee efficiency and effectiveness for agricultural productivity in order to play this key role for the society. In addition, Centre for International Tropical Agriculture (CITA, 1991) opined that acquired skill in agricultural crops processing activities will lead to national economic benefits and food security, since inadequate processing results in loss of about 50% of agricultural products, produced from farm harvest.

Table 2: Computation of responses on the crop marketing skills that could lead to food security among graduates (N = 30)

S/N	Agricultural crop marketing skills	Ignatius Ajuru University of Education n = 18			Rivers State University n = 12			Mean of means
		\bar{X}_1	SD ₁	RMK	\bar{X}_2	SD ₂	RMK	
1.	Good knowledge of consumers point of consumption/marketing channels	3.96	0.24	HE	3.96	0.19	HE	3.96 HE
2.	Knowledge in timely delivery of customer's demands	3.91	0.28	HE	3.90	0.30	HE	3.91 HE
3.	Knowledge in efficient skill of commodity handling technique	3.92	0.26	HE	3.95	0.21	HE	3.91 HE
4.	Sales team and farmers coordination skill	3.97	0.15	HE	3.97	0.15	HE	3.97 HE
5.	Good communication and relationship skill with customers	3.91	0.28	HE	3.96	0.19	HE	3.94 HE
6.	Adequate knowledge in packaging and branding skill	3.95	0.21	HE	3.91	0.28	HE	3.93 HE
7.	Products advertising skill	3.90	0.30	HE	3.90	0.30	HE	3.90 HE
8.	Appropriate knowledge in private negotiation skill	3.92	0.26	HE	3.95	0.21	HE	3.94 HE
9.	Adequate knowledge in auction marketing skill.	3.95	0.28	HE	3.98	0.11	HE	3.97 HE
10.	Ability to organize effective cooperative marketing	3.92	0.26	HE	3.90	0.30	HE	3.91 HE
Grand mean		3.90	0.25	HE	3.94	0.22	HE	3.92 HE

Source: (Field work, 2021)Where: HE = High Extent \bar{X} = Mean,SD=Standard Deviation, N = Number of students.

Table 2, reveals the extent of acquired agricultural crop marketing skill among agricultural education graduates for food security in Rivers State. Finding shows that all the graduates of agricultural education are of high extent on the acquired agricultural crop marketing skill for food security in Rivers State. The weighted mean indicate 3.96, 3.91, 3.92,

3.97, 3.91, 3.95, 3.90, 3.92, 3.95 and 3.92, for Ignatius Ajuru University of Education and 3.96, 3.90, 3.95, 3.97, 3.96, 3.91, 3.90, 3.95, 3.98 and 3.90 for Rivers State University respectively. With 3.92 as the mean of mean, all the graduates are of high extent on the agricultural crop marketing skill for food security in Rivers State. Although,

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Rivers State University has the highest response on the extent of acquired agricultural crop marketing skill with grand mean of 3.94 when compared with Ignatius Ajuru University of Education that has 3.90. The standard deviation (SD) ranges from 0.15 to 0.30, indicates closeness in the opinion of both categories of respondents.

The findings is in agreement with the view of Scott (2019) who submitted that if there is marketing role to play by individuals, then it becomes imperative to have relevant skills that will guarantee productive career in the marketing industry. In a related view, Acharya & Agarwal (2006) ascertained that marketing plays an important role in stimulating production and also in accelerating the pace of economic growth and development, though required some skillful strategies that will promote the entire marketing process.

Conclusion: The result of the study reveals that the acquired skills that is required in agricultural crop processing and marketing among agricultural education graduates is of High Extent. Hence, it is concluded that graduate of agricultural education has acquired the skills and competencies needed in agricultural crop processing/marketing for food security in Rivers State.

Recommendations: Agricultural education graduates should be given access to agricultural grants through government to enable them establish their agricultural crop processing enterprise. This will create employment opportunity and reduce problem of unemployment which will guarantee a better standard of living among graduates of agricultural education in Rivers State. Agricultural education graduates should be motivated by government, and non-governmental organizations that are interested in agricultural crop marketing through provision of grants. This will enable the graduates to be involved in both local and international trades of agricultural crops and products, which will ensure food security for their family members and contribute meaningfully to the economic growth of the society.

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