

Techniques of Cassava Farming for Rural Farmers Food Production in Ebonyi State

Ogba Ernest Ituma Ph.D

Mozie Mary Agatha

Ebonyi State University, Abakaliki

Department Of Technology and Vocational Education

Abstracts:

The purpose of the study was to determine the techniques of enhancing cassava farming for rural farmers' food production in Ebonyi State. A total of 360 respondents were used in the study. This comprised of 325 registered farmers and 35 extension agents. Questionnaire was used for data collection. Data was analyzed using mean and standard deviation. The result revealed that among others, the following techniques of enhancing farming in cassava production for rural farmers' were identified to include; ten cassava farming techniques in Table I, eight extension agent services in Table II, and eight farming tools in Table III among others. To reach the rural farmers, the use of extension agent demonstration practices centres remain the ideal. Recommendations were made based on the findings.

I. Introduction:

Techniques are the ways of doing somethings expertly or professionally showing high level of competence for others to emulate it and expand to less knowledgeable farmers. Ogba (2023) stress that techniques is a method, systematic, principles and tools proven by research, Science, and technology relevant for human development in production and other services. Nwigwe (2023) maintains that techniques is scientific based approach in practices that promote production ensures, improvement and Innovation for profitability.

Techniques in the context of this study is the style in which farmers use to produce cassava in Ebonyi State. However, farmers are those who Cultivate, land and plant crops and rear animals of different types for human consumption and processing its by-products, marketing and distribution among others. Ogba (2024) maintains that farmers are group of people, who are living in the village with their primary aim to produce food crops and livestock for sales, processing, distribution and marketing as business for getting sources of income Consumptions among others. He stress that farmers are categorized into different levels and types, with men, women, and adults in the village that produces about 95% of the food consumed and utilized as foodstuff for livestock in Nigeria. Farmers in the context of this study are those who participate effectively in cassava production as their sole job for earning their living among others, The farmer may be subsistence farmers, or commercial farmers, which depend on their level of production: farmers in this study are mainly cassava farmers who produces cassava tuber which is utilized in production of different products worldwide. Therefore, cassava is an edible crop plant, which produces tubers, and belong to the family of (Euphorbiaceae) which is African origin, the leaves are used as vegetable for cooking soup, the stem is used as sources of planting materials, when cut fresh, or dried is used as fire wood and the tuber as source of different food items like, fufu, tapioca, garri, flours among others. Uzor (2020) stress that cassava is a staple food which resist drought and survive any harsher condition for production of cassava are properly prepared to reduce the presence of cyanide (hydrogen cyanide acid) (HCN) which cause cyanide intoxication, goiter, ataxia, partial paralysis or death. Food and Agricultural Organization (FAO) (2020) maintains that cassava produced in Africa is about 54% of the world-wide production in 2021, which is multidimensional. Kassie (2022) stress that cassava farming is a practice to promote improved varieties, and conservation of agriculture through fast growing and high yield cassava. He stresses that scientific and technological approach to farming requires machinery, biotechnology, irrigation systems, and data driven method. Darlington (2023) view cassava farming with several stages, as site selection, selection of good cassava products, proper land preparation (ploughing and harrowing) taken into consideration, distances, and cutting stem by checking node and internodes: Utong (2022) maintains that cassava can be planted as sole crop in the plot of land to ensure more nutrient available for its full performance in the farm without competing with another crop. Ogba (2024) view mechanization in cassava production as the best alternative for massive and effective modern system approach with scientific and technological innovations. He stresses that human population increase, domestic industrial demand and exporting of cassava products has led to adoption of different techniques of cassava farming in Ebonyi State Nigeria. Ogba (2018) sees cassava farming as the best ways of increasing agricultural productivity, sustainability, and revolutionized traditional style of production into current method, or

techniques by utilizing disease resistant crop, good fertilizer application, Integrated pest management (IPM) modern irrigation system, and improve its marketing channels. He stresses that cassava products in Nigeria have not been properly harnessed and require scientific and technological innovation for its adequate utilization

However, to improve is to get additional value in quality and quantity therefore, improvement implies a system of passing from one stage to another which indicates better condition, or value addition. In the view of Lawal (2023) Improvement show gradual development from small stage to better stage which demand higher level involvement of variable factors. Improvement in the context of this study is the technique of farming in cassava production, among farmers for more yield, better income of farmers in Ebonyi State. However, the benefit of Improvement in cassava farming techniques is to increase the yield, maintain cassava product in demand, and sustainability to change in Nigeria and in Ebonyi State where population increases demand of cassava products. Therefore, food is necessary as fuel to human beings to improve on method of food production, becomes imperative in the life of every individual including Animals (livestock) that depend on its by-product as feedstuff. Ogba (2025) see food as anything, which human beings and animals can eat after digestion it will nourishes the body, however cassava production leads to food and feed items in different stage of cassava plant life, therefore Security to food and feed is important in any society. That may be the reasons why Ebonyi State Government supported farmers in the areas of distribution of Knapsack Sprayer, fertilizers and herbicides including improved cassava stems to ensure security of food. Njoku (2023) see food security as the provision of enabling environment that will trigger massive food production all year round in abundant, by providing good soil maintenance, selection, cultivating at the right time, provision of insecticides, herbicides, fertilizers, application/liming where necessary, among others. Food security in the context of this study is the steady food provision, in both quality and quantity, to the demanding population to keep away hunger within the environment among the people that needed food in the society. Food security demand Constant Improvement in the production of food, systems employed by the farmers in increasing input and output relationship, in the food value chain, and with other variable factors.

Therefore, there is need to improve, increase quantity and quality produced constantly, for sustainability of the products. Use of good agricultural practice, since awareness raises understanding of the existence of benefit. Modern techniques of production, innovation, and improved technologies.

Statement of the Problem

Agricultural production is still in the hands of subsistence farmers in Nigeria, that uses hoe and cutlasses as their basic tools for farming. This has made agricultural production to remain low input and low output, with constant increase in population, and constant food demand. The major staple food product, has decreased its supply to consumers, which cassava products are involved. However, farmers low productivity in Agricultural output can be attributed to many factors despite their effort to meet up the consumer's demand. Such problems include primitive tools, land degradation, poor soil managements, lack of incentives after investing on the farm products, presently cassava farmers are now on serious crying. Since what they invested in production cannot be justified in terms finance. Government efforts like the present Government who promised farmers of some Input, which will fall into the hands of politicians and will never reach genuine farmers. Whatever is produced by farmers are sold at give away price, but whatever that farmers bought in the markets are costly and increase on daily bases, these implies that problems facing cassava production are many and required techniques for them to come out of the challenges consumer's demand.

The Purpose of the study

The main purpose of the study is to find out the techniques enhancing rural food production of cassava farming in Ebonyi State. Specifically, the study seeks to:

- (1) Find out the Incentives given to cassava farmers for more production in the state.
- (2) Examine Extension services given to cassava farmers in the state.
- (3) Ascertain the farming tools available for cassava farmers in the state.

Significance of the study.

The result of this study will be beneficiary to the following group of Peoples, farmers, Extension agents, Researchers among others.

Cassava farmers and other crop farmers will benefit from the Findings of the study, which will expose them and change to another level and improve their production yield, reduce scarcity in the area. The result will update farmers knowledge on technologies of cassava Production.

The extension agents working within the research area will benefit from the findings of the study, since, they will use it for training other cassava farmers. The findings of the study would be beneficial to the researchers since; the result will be adopted as reference point for another study.

Scope of the study:

The study focuses on the techniques of cassava farming among farmers for food security in Ebonyi State. The content scope are the Incentives given to the cassava farmers, as techniques for more production, Extension agent services given to the cassava farmers for better yield, and the type of tools available for cassava farmers in the state.

Research Questions of the study.

- (1) What are the incentives, and inputs given to cassava farmers as techniques for more cassava production in Ebonyi State.
- (2) Examine the extension agents services given to cassava farmers for better yield in the state.
- (3) Ascertain the tools available to cassava farmers for high production capacity in the state.

II. Methodology

Area and Design of the study: This research adopted survey research design. While the area of the study is Ebonyi State.

Population for the study: The population of the study was 360 registered farmers and extension agents in the state. Which implies 325 registered farmers and 35 extension agents in the state. Farmers registered in Ministry of Agriculture in collaboration with Agricultural Development Programme of Ebonyi State. All the farmers have the same background which means all from the rural areas of the state.

Sample for the study: There was no sampling since 325 farmers and 35 extension agents were used in the study. **Instrument for Data Collection:** The instrument for data collection was a 4 point rating questionnaire. SA = Strongly Agree (4 points), A = Agree 3 points, D = Disagree 2 points, and SD = Strongly Disagree 1 point. The questionnaire was divided into two: A = collected information on respondents, and B = collected information on incentives given to farmers, extension services which farmers benefit for more cassava production. The instrument was validated by 3 experts, two in Agricultural education and one in measurement and Evaluation expert. The reliability of the instrument was determined using Cronbach alpha to analyse the data collected from the pilot test which yielded a reliability coefficient of 0.85.

Data Collection Method: Three hundred and sixty copies of the questionnaire were distributed to the 360 farmers and extension agents by hand with the help of 2 research assistants that were trained one day for administering questionnaires.

While three hundred and sixty were distributed, 355 were retrieved, which means 98.7% return.

Data Analysis Technique: The data were analyzed using mean and standard deviation. Based on the 4 point rating scale of the instrument, 2.50 were adopted as the cut off points for decision. Any item in the instrument that scores 2.50 or above is regarded as accepted factor which gives more cassava production, while any item that scores less than 2.50 was regarded as the factors which do not encourage farmers more cassava production.

Findings of the study:

Based on the analysis of the data, the following findings were made:

1. Ten cassava Farming Techniques for enhancing rural farmers' food production was identified in Table 1.
2. Eight Extension Agents' services for enhancing rural farmers' food production was identified in Table 2.
3. Eight cassava Farming tools and techniques for enhancing rural farmers' food production was identified in Table 3.

Table 1: Means with Standard deviation of respondents on agricultural Incentives for more rural food production

S/N	Item Statement	X	SD	Remark
1	Provision of fertile soil to rural farmers	2.55	0.58	Agree
2	Provision of quality cassava sticks to rural farmers	2.50	0.65	Agree
3	Provision of fertilizers to the rural cassava farmer	2.71	0.48	Agree
4	Provision of herbicides to the rural cassava farmer	2.52	0.78	Agree
5	Provision of tractors for rural farmers	2.63	0.49	Agree
6	Provision of all the Agro-chemicals like Incentives	2.90	0.83	Agree
7	Provision of soft loans to the Cassava farmers	2.50	0.94	Agree
8	Provision of Cassava grafting and drying machines	2.53	0.82	Agree
9	Provision of good marketing channel for profit prizing	2.82	0.72	Agree
10	Provision of good Distribution of the products & packaging machines	2.53	0.92	Agree

Table 1 indicate that all the items scored above cut off point of 2.50 and their corresponding standard deviation. This implies that the respondents were of the opinion that provision of all the agric. incentives will lead to more rural farmers food production.

Table 2: Means with Standard deviation of respondents on agricultural extension services for more rural farmers food production in Ebonyi State

S/N	Item Statements	X	SD	Remark
1	Holding meetings with rural cassava farmers by extension agents	2.75	0.99	Agree
2	Research finding on best/improved cassava stem	3.25	0.92	Agree
3	Most recent machines for packaging products for exporting.	2.67	0.68	Agree
4	Cassava stems for producing tubers used for bread making and Indomine	3.52	0.91	Agree
5	Cassava stem for industrial starch, and for snacks.	3.43	0.93	Agree
6	Cassava stem for 3 month maturity and harvesting.	3.27	0.92	Agree
7	Agro-chemicals that are subsidized for rural cassava farmers.	2.85	0.67	Agree
8	Revitalization of commodity board for rural cassava farmer product after harvest.	3.41	0.54	Agree

Table 3: Mean with Standard deviation of respondents as available tools for rural cassava farmers for more production

S/N	Item Statement	X	SD	Remark
1	Matchets, Cutlass, among others.	3.54	0.85	Agree
2	Hoes, Shovel, Rake, Rod, digger etc.	2.64	0.63	Agree
3	Ridgers, hand tillers,	2.61	0.54	Agree
4	Tuber harvester, tractors	2.50	0.89	Agree
5	Grinding Machine (tuber grinder)	3.20	0.85	Agree
6	Frying Machine, Sieving Machine	2.51	0.86	Agree
7	Packaging Machine	2.81	0.87	Agree
8	Storage Sacks	2.63	0.65	Agree

Table 3 reveals that Item No: 3 (2.41), No: 4 = 2.40, No: 7 = 2.41 had their mean score below 2.5 and their standard deviation, while Item 1, 2, 5, 6, 8, had their mean score above the cut off point of 2.50, which indicates that respondents were of the opinion that

Table 3 reveals that all the items had their mean score above the cutoff point of 2.50, and their respective standard deviation ranging from 0.41 - 0.85. The respondents were of the opinion that when all these tools were made available to the cassava farmer, more food will be produced. The standard deviation shows the mean deviation of the respondents were very close and not far from each others.

III. Discussion of Findings

The study has revealed that making available agricultural Incentives for rural cassava farmers will lead to production of more food. This finding aligns with Ndem (2018) who has the opinion that rural farmers need incentives to encourage them to participate in agricultural production. He stress that poor profit margin discourage many rural farmer from investing in more food production.

In line with Ogba (2023) who maintains that any work without incentive is subject to failure, and recommend that rural farmers need some input like fertilizer, good soil, herbicides, insecticides, improved seeds, stems, and seedling for more production.

Abubakar (2016) is of the opinion that rural farmers need to be motivated to enable them have more interest in food production. Uzor (2020) have the view that cassava production requires more attention as staple food, which its products are many and utilized in different form. He sees cassava as the gift from God since, its parts are not wasted. Further more Eze (2021) stress that rural farmers produce most of the food utilized but their products are not meant for more money. Since food products are not meant to attract remuneration but just to feed the Nigerian teaming population, some cannot even pay their children school fees, because of poor financial remuneration of farm product. This study is in line with study of Ogba (2025) who maintains that for rural farmers to be productive, motivation is required. He maintains that adequate incentives to the farmers in agricultural production.

Examine Extension services given

Ascertain the farming tools available for cassava farmers in the state.

IV. Conclusion:

The demand for more food in the Country requires techniques for production of more Agricultural products, from cassava as commodities which many people seek for its cheap sources which has become expensive. Therefore, rural farmers that engage themselves in real production activities need to increase their production techniques to meet up with the current demand. This is to stop starvation and food deficiency, malnutritional problem. However, rural farmers need to be encouraged by Government in providing some farm inputs to them, and reduce the prices of some Agro-technological services to the farmers. The farmers' welfare should be looked into by the Government, to ensure their full participation and more production.

V. Recommendations

The Researcher recommended that:

1. Farmers' Input should be provided to them for more production
2. The children of farmers should be assisted by Government in school fees, since farmers do not make much money like bankers, politicians, among others
3. Celebrating annual crop production should provide an avenue for giving some incentives to the farmers by the Government, Non-Governmental Agencies, among others

References

- [1]. Eze (2021), Eze, S.O. Farmer Education and its relevant to rural farmers. Journal of Agricultural education teachers Association of Nigeria (JAETAN) 2(3) 48–55.
- [2]. Abubakar, A.O (2016) Empowering Youth in Agricultural Production for Food Security in Bayelsa state. British Journal of Education 3(1) 50–62.
- [3]. Njoku, K.C. (2022) Enhancing Future agricultural Reform and implementation for farmers in Abia State. International Agricultural Development and statistic 5(12) 43–56.
- [4]. Ogba, E.I. (2025) Food production and nutritional Development: Case study of Cassava farming in Ebonyi State. Journal of Humanity and social Sciences 5(2) 33–45
- [5]. Lawal, A.C. (2023) Mechanization in cassava production for National Development: An Appraisal of cassava Processing and Marketing in Nigeria. International Journal of Education 3(5) 85–99.
- [6]. Ogba, E.I. (2018) New Generation agricultural Science for Secondary Schools: Enugu, Immaculate Publisher.
- [7]. Ogba, E.I. (2024) Reducing Strategies for reducing the challenges of pathogenic Organism in yam tuber storage. Journal of Bio-science and Biotechnology 5(2) 243–256.
- [8]. Nitong, A.C. (2024) Climate change Impact on cassava production in South-South Nigeria. Journal of Ebonyi Technology and Vocational Education 3(3) 22–36.
- [9]. Darlington, L.O. (2024) Impediments to Food Production in the rural areas of Ebonyi State of tropical zone. A paper presented on the Seventh Regional Cassava workshop
- [10]. Kassie, R.O. (2023) Agricultural Science handbook for Secondary Schools and Colleges. Enugu: Global Publisher.
- [11]. F.A.O. (2020) Food and Agricultural Organization of United Nations Statistics FAOSTAT.
- [12]. Uzor, F.O. (2020) Barriers to women Participation in Agricultural production in Bauchi State. Journal of Education and Technology 2(3) 43–58.
- [13]. Ogba, E.I. (2024) Competence required by Secondary School Teachers for Developing and imparting skills to students in Cassava production in the practical Farmwork. Journal of Ebonyi Technology and Vocational Education 3(3) 46–58.
- [14]. Ogba, E.I. (2023) Mechanization and Farm Technology (the Principle, method and practice). Ebonyi: Avemaria publisher.