ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS OF NO POVERTY AND ZERO HUNGER THROUGH THE CULTIVATION OF CASSAVA IN ENUGU SOUTH LOCAL GOVERNMENT AREA OF ENUGU STATE

UDENSI, EDWIN .O.,

NWOBODO JOHN IKECHUKWU
&
ANEKE CATHRINE. U Ph.D.

TECHNOLOGY AND VOCATIONAL EDUCATION DEPARTMENT
ENUGU STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY ESUT
Email: efednoz@gmail.com

Abstract

The study focussed on achieving the sustainable development goals through the cultivation of cassava to prevent hunger and poverty in Enugu South Local Government Area. Three research questions were answered and three null hypotheses were treated at 0.05 level of significance. One hundred and twenty (120) cassava farmers were purposively selected for the study. A structured questionnaire of 22 items was used as instrument for collection of data. It was validated by three experts and Cronbach Alpha reliability coefficient values of 0.88, 0.79 and 0.92, respectively were obtained. Mean with standard deviation was used to answer the research questions. The t-test was used to test the null hypothesis. The study indicated strategies that would be adopted by cassava farmers for improving cassava production and the barriers to the use of improved cassava production technologies. Conclusively farmers adherence to the strategies revealed in the study and means to overcome the barriers so identified would enhance cassava production in the Local Government Area. Recommendations were made based on the findings and it include that there is need for government at all levels to be highly involved in providing subsidies on farm inputs like fertilizer and agro chemicals in order to assist and encourage the small scale farmers in cassava production to increase productivity.
Key words: Poverty, Hunger, Cassava, Sustainable Agriculture.

Introduction

Poverty is a condition of being poor. This could be experienced even amidst plenty. The World Bank (2015) defines poverty in absolute terms and sees extreme poverty as living on less than US $ 1.90 per day and moderate poverty as less than $ 2 a day. It is a condition where peoples basic needs for food, clothing and shelter are not met. The neighbourhood reeks of poverty, because unemployment rate is high and average earning is less than $2 per day in the nation Barnes (2012). The purchasing power parity rates of the people are below the poverty- line in this area (Ferriera, 2015).

Hunger on the other hand and in this circumstance is food insecurity. Better Business Bureaux (BBB) rating (2003) defines hunger as lack of food, need for food, hungriness and ravenousness. In a nation where there is no diversification, but the economy is centred on oil, the potentials of the people will not be tapped for food production and with the increase in population, there is bound to be increase

in poverty and hunger situation. This study intends to actuate agricultural practices of cassava production to the well-being of the people in line with the sustainable development goals of the United Nations.

The sustainable Development Goals (SDGs) are officially known as "Transforming our world": The 2030 Agenda for sustainable development is a set of seventeen aspirational "Global Goals with 169 targets between them (UNDP 2014). Among the global gaols for sustainable Development are: no poverty. This aims at ending poverty in all forms and in all communities everywhere the next is zero hunger. This also aims at ending hunger by the year 2030. This is to achieve food security and improved nutrition through promotion of sustainable agriculture.

In a brief, the united Nations general Assemblies Open Working Group (OWG) on Sustainable Development Gaols (SDGs) forwarded proposal for the SDGs to the Assembly on July 19, 2014. The proposal contained 17 goals with 169 targets covering a broad range of sustainable development issues. At the United Nations Sustainable Development (UNSD) summit on 25 September 2015, world leaders adopted the 2030 Agenda for sustainable development, which includes the set of 17 sustainable development Goals to end poverty, fight inequality and injustice and tackle climate change by 2030 (UNDP 2014). The SDGs came into effect in January 2016 and they will guide UNDP policy and finding for the next 15 years in 170 countries and territories including Nigeria.

In view of the above, Nigeria keyed into the previous Millennium Development Goals (MDGs) and developed a policy document called the National Economic Empowerment and Development strategy (NEEDS). To further see that Nigeria benefits from the UN programme, the states produced a policy document termed State Economic Empowerment and Development and Development Strategy (SEED), Barnes [2012]. Nigeria has not withdrawn from the present "Sustainable Development Goals" of the United Nations, hence the importance of this study. "Achieving the Sustainable Development Goals (SDGs) of no poverty and zero hunger through the cultivation of cassava in Enugu South Local Government Area of Enugu State", is implemented at Local Government level.

Cassava (*Manihot Spp*) is one the most popular root crops grown in Africa, especially Nigeria. According to Onwubuya (2014) cassava is a major root crop grown throughout Nigeria for cash, food, feed and raw material for agro-allied firms for the production of starch, alcohol, pharmaceuticals and confectioneries. Cassava production in Nigeria is by far the largest in the world, a third more than the production in Indonesia and Thialand (Onwubuya, 2014). The country's local production in 2014 was 44 million tonnes. Comparing the outputs of various crops in Nigeria, cassava ranks first with 41 million tonnes, followed by yam production at 37 million tonnes in 2011, Sorghum at 14 million tonnes, millet at 10million tonnes and rice at 9 million tonnes (Bolaji, 2014).

The crop plays a dominant role in the food security of both rural and urban households because of its capacity to yield under marginal soil conditions and its tolerance to drought (Ezedinma, 2010). He further stated that cassava is a cheap and reliable source of food for more than 700 million people in the developing world.

Cassava has been identified as a very powerful poverty and hunger fighter by driving down the price of food to millions of consumers. According to Bolaji (2014). About 84% of cassava produced in Nigeria is consumed as food while 16% production is utilized for industrial purposes in the proportions of 10% as chips in animal feed, 5% as syrup concentrate for soft drinks while less than 1% is processed into high quality cassava flour used in biscuits and confectionaries, dextrin pregelled start for adhesive, starch for pharmaceuticals and seasonings. He further stated that cassava production plays an important role in the economic development by providing food for the growing population employment for the population raw materials and foreign earnings for the development of industrial section.

Investigation has shown that cassava was considered by the household as their most important food crop (Onwubuya, 2014). Some sizes of the households take meals from cassava daily throughout the year and during the rainy season. This percentage goes up to 97% of the households. Cassava has some inherent characteristics which makes it attractive especially to the smaller holder farmers in both rural and urban farmers in Nigeria. First, it is rich in carbohydrate especially starch and consequently has a multiplicity of end users. Secondly, it is available all the year round, making it preferable to other seasonal crops such as grains, peas and beans and other crops of food security. As a cash crop, cassava generates cash income for the largest number of households in comparison with other staples (Anga. 2014).

Achieving the sustainable Development goals through cultivation of cassava to preventing hunger and poverty has been constrained as a result of enormous challenges farmers in Nigeria face in cassava production. Some of these challenges are those associated with their socio-economic status while some have to do with environmental and institutional factors. For example, it is reported that inadequate information about improved technologies was one of the major constraints to farmers in cassava production. Farmers are also constrained in cassava production and processing in terms of lack of access to efficient markets. In most cases, the farming household sells their cassava tubers in unprocessed forms to middle men thereby losing a substantial proportion of the profit margin accruable at the level of processing into garri and other cassava products. This is most often attributed to the poor condition of rural roads which makes transportation of fresh cassava and processed products to urban markets difficult. Generally, there are numerous challenges to cassava production which could be grouped under agronomic, institutional and financial constraint. (Anga, 2014).

The most important factors affecting adoption behaviour of male and female farmers in cassava production are personal and socio-economic characteristics (Akinaagba, 2010). With increasing

globalization of information through modern communication technologies, farmers should have access to various channels of information used by extension agencies in dissemination of agricultural information on improved technologies.

Inspite of several policy initiations of the Government manifested through extension system, cassava production has not recorded significant growth in the prevailing food crisis, in the country. Against this back drop the need arose to carryout an empirical study in order to identify means for improving cassava production with the vein to preventing hunger and poverty in Enugu South local government area of Enugu State.

Statement of the Problem

The Sustainable Development Goals (SDGs) represent human needs and basic rights that every individual around the world should be able to enjoy. One of the major needs and rights include freedom from extreme poverty and hunger. These needs and rights can be achieved through cassava production.

Cassava production has the potential of combating human hunger among adults and infants alike and hence will remain a pillar of food security for the citizenry. The state can do better in the production of cassava optimally but the rural farmers efforts at increasing the production of cassava has been benighted with vagaries of problems. These problems include inadequacy of funds, corruption among public officials, lack of modern communication technologies, lack of access to efficient markets and lack of physical infrastructures in the rural areas. It is these fundamental personal, socio-economic and political pitfall that has led to their inability to produce cassava optimally. Against this back drop, it becomes exigent to identify ways of improving cassava production to reduce poverty and hunger in Enugu South local Government Area of Enugu State.

Purpose of the Study

The major purpose of the study is to identify strategies for improving cassava production for sustaining the millennium goal by preventing hunger and poverty in Enugu South local government area of Enugu State. Specifically the study seeks to;

1. determine the improved farming methods for cassava production in Enugu South Local Government Area;
2. ascertain major ready market outlets among cassava farmers in Enugu South Local Government Area.
3. ascertain major constraints to the use of improved cassava production technologies among the farmers in Enugu South Local Government Area.

Research Questions

The following research question guided the study;

1. What are the improved farming methods for cassava production in Enugu South Local Government Area?
2. What are the ready market outlets among cassava farmers in Enugu South Local Government Area?
3. What are the major constraints to the use of improved cassava production technologies among farmers in Enugu South Local Government Area?

Hypothesis

The following hypotheses were formulated and tested at 0.05 level of significance.

HO_1: There is no significant difference between the mean ratings of male and female farmers in Enugu South L.G.A on the improved farming methods for cassava production.

HO_2: There is no significant difference between the mean ratings of male and female farmers in Enugu South L.G.A on the ready market outlets among farmers in cassava production.

HO_3: There is no significant difference between the mean responses of male and female farmers in Enugu South L.G.A on the major constraints to the use of improved cassava technologies.

Methods

The design of this study was descriptive survey. According to Alio (2008) a survey research design is one which a group of people or item are studied by collecting from only a few representative of the entire group or by collecting and analysing data from the entire people for items. The study was carried out in Enugu South L.G.A. One, hundred and twenty farmers (120) who were registered were purposively selected for the study. The instrument used for data collection was a five point Likert scale structured research question formulated for the study with 22 items. Opinions of the experts that validated the instrument were used to restructure the instrument. The reliability of the instrument was also established using Cronbach alpha model and coefficient was 0.89, which indicated high reliability of the instrument. The instrument was administered to the respondents by the researcher and three research assistants who were duly trained on how to guide respondents to answering the research questions. Out of 120 questionnaire copies administered, the 120 were retrieved within three weeks representing 100% return rate. Mean with standard deviation was used to analyse the data. Any item with a mean 3.00 and above was regarded as agreed while items with mean below 3.00 were regarded as disagreed.

Results

Research Question 1

What are the improved farming methods for cassava production in Enugu South Local Government Area.

Table 1: Mean responses of farmers on the improved farming methods for cassava production.

s/n	Strategies	SA	A	UD	D	SD	$\bar{x}$	SD	Decision
1	Use of improved varieties of cassava	98	22	-	-	-	4.82	0.39	Agree
2	Planting of on flat land after ploughing	80	25	7	6	2	4.46	0.42	Agree
3	Use of herbicides to control weeds	75	30	5	-	-	4.25	0.35	Agree
4	Use of pesticides to control pests	70	40	6	4	-	4.47	0.51	Agree
5	Weeding at least 2times per planting season	53	67	-	-	-	4.44	0.88	Agree
6	Ploughing and ridging before planting using plough and ridger	80	32	2	2	1	4.59	0.64	Agree
7	Use of chemical fertilizer to improve soil nutrients	68	32	-	-	-	3.90	1.01	Agree
	Grand mean						4.42	0.60	Agree

Table 1 shows the mean responses of the respondents on the improved farming methods for cassava production. The grand mean of 4.42 shows that indeed the aforementioned methods are the panacea for improving cassava production.

Research question 2

What are the ready marketing outlets among cassava farmers in Enugu South Local Government Area?

Table 2: Mean responses of farmers on the ready marketing outlets among cassava farmers in Enugu South L.G.A

s/n	Marketing Sources	SA	A	UD	D	SD	$\bar{x}$	SD	Decision
8	Contacting Fellow farmers	74	36	5	3	2	4.48	0.83	Agree
9	Radio adverts	84	20	10	4	1	4.53	0.85	Agree
10	Magazines adverts	45	53	12	5	5	3.73	0.44	Agree
11	Using Extension Agents	85	30	-	4	1	4.61	0.72	Agree
12	Television adverts	88	20	7	3	2	4.58	0.85	Agree
	Grand mean						4.39	0.71	Agree

Table 2 shows the mean responses of the respondent on the ready marketing outlets of cassava products in Enugu South Local Government Area. The grand mean of 4.39 indicate complete agreement by the

respondents. This shows that contact with fellow farmers, radio adverts, using of extension agents and television adverts are indeed the major ready marketing outlets for cassava products.

Research Question 3

What are the major constraints to the use of improved cassava production to technologies among the farmers in Enugu South Local Government Area?

Table 3: Mean ratings on farmers on the major constraints to the use of improved cassava production technologies.

s/n	Constraints	SA	A	UD	D	SD	$\bar{x}$	SD	Decision
12	High cost of fertilizer	78	38	3	1	-	4.61	0.49	Agree
13	Inadequacy of fund	90	30	-	-	-	4.75	0.61	Agree
14	Poor storage facilities	87	33	-	-	-	4.73	0.54	Agree
15	High cost of labour	75	40	3	2	1	4.58	0.96	Agree
16	Poor market network	78	37	2	3	-	4.47	0.70	Agree
17	Poor extension contact	75	30	8	5	2	4.43	0.78	Agree
18	High cost of transport	80	40	-	-	-	4.67	0.33	Agree
19	Inadequate planting techniques	65	50	2	2	1	4.47	0.55	Agree
20	Unavailability of improved planting materials	82	38	-	-	-	4.59	0.49	Agree
21	Inadequate provision of farm land	88	22	5	3	2	4.59	0.49	Agree
	Grand mean						4.60	0.63	Agree

In response to research question 3, table 3 revealed that all the respondents agreed with the items. This indicates that the respondents were highly constrained by the aforementioned items. Evidence to this, is the grand mean of 4.60.

Hypothesis 1

Table 4: The t-test comprises opinion of male and female farmers on strategies to be adopted for improving cassava production.

Group	No of cases	$\bar{x}$	SD	DF	t-cal	t-crit	Decision
Male farmers	72	2.96	0.95	118	0.87	1.96	No significant differences
Female farmers	48	2	83	0.44			

Table 4 reveals a t-calculated statistics of 0.87 and t-tabulated 0f 1.96 at 118 degree of freedom. From the table, the t-calculated is less than t-critical and so, Null hypothesis is not rejected. This indicates that male and female farmers have the same opinion on the strategies to be adopted for improving cassava production.

Table 5: t-test statistics for Null hypothesis 2

Mean ratings of male and female farmers on ready marketing outlets **among farmers in cassava products in Enugu South Local Government Area**.

Group	No of cases	$\bar{x}$	SD	DF	t-cal	t-crit	Decision
Male farmers	72	3.22	0.93	118	1.02	1.96	No significant differences
Female farmers	48	2.90	0.77	0.44			

Similarly, table 5, reveals that the t-calculated value (1.02) is less than t-critical value (1.96) and so

Ho: is not rejected. It is concluded that male and female farmers have uniform opinion on ready marketing outlets cassava production in Enugu South Local Government Area.

Table 6: t-test statistics for Null Hypothesis 3

On the mean ratings of male and female on major constraints to the use of improved cassava technologies in Enugu South L.G.A

Group	No of cases	$\bar{x}$	SD	DF	t-cal	t-crit	Decision
Male farmers	72	4.32	0.93	118	1.84	1.96	No significant differences
Female farmers	48	3.90	1.05				

Results from table 6 indicate that the t-calculated value (1.84) is less than the t-critical value (1.96) and so, Ho is not rejected. It is concluded that male and female farmers did not differ, significantly in their opinions on the major constraints to the use of improved cassava production.

Discussion of findings

The results for research question one treated the improved methods for cassava production. The grand mean of 4.42 revealed that the farmers overwhelmingly agreed that application of the new improved methods will boost cassava production hence eradicate hunger and poverty. This is in line with Onwbuya (2013) who stated that the improved cassava production technology will help to boost production of cassavas well as ensure household food security since cassava is a major staple food consumed by most household in both rural and urban areas.

Research question two revealed the ready marketing outlets by cassava farmers. Results from research question two revealed that the respondents indicated that the ready marketing outlets was using extension agent with a very high mean of 4.61. It therefore shows that extension agents are doing well in marketing improved cassava production to farmers in the study area. According to Akinnagbe (2010)

ready marketing outlets have also been an important stimulus to individuals in the adoption process, since they are sure of making money after cassava production.

Research question three treated constraints to the use of improved cassava production technologies. Result from table 3 indicate that farmers were highly constrained by high cost of transportation, high cost of labour and poor storage facilities. These findings confirm a study carried out by Okereke (2012) which stated that lack of storage facilities and lack of market information were identified as major constraints to cassava production in Enugu south Local government Area. Results from null hypotheses 1, 2 and 3 showed that the male and female cassava farmers have uniform opinions on the methods for improving cassava production, ready marketing outlets cassava products and constraints to the use of improved cassava production.

Conclusion

Eradicating poverty and hunger which is among the major goals of the sustainable development agenda can be achieved through improved cassava production. Adoption of the aforementioned methods is the surest panacea through which cassava farmers can enhance their productivity towards combating hunger and poverty. The study identified that using extension agents were among the ready market outlet to distribute cassava products. It is worthy of note that cassava farmers identified ten greatest barriers to the use of improved cassava production technologies.

Recommendations

Based on the findings and conclusion of the study, the following recommendations were made:

1. The government and Enugu South L.G.A in particular should assist the cassava farmers in their quest for hunger and poverty eradication by providing funds, farm lands adequate storage facilities, enhanced market network and miscellaneous support which will help cassava farmers to achieve their mandates.
2. There is need for governments at all levels to be highly involved in providing subsidies on fertilizer and agro-chemicals in order to assist/encourage the small scale farmers in cassava production to increase productivity, sales and food provision.
3. Efforts of extension agents in organising training programmes, workshops, agricultural shows and seminars in order to sensitize the farmers on the need for using effective marketing outlets for total eradication of hunger and poverty, should be support by making extension agents available by the Local Government Authority, to the nooks and crannies of the Local Government Area.

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