ENHANCING FOOD PRODUCTION THROUGH SUSTAINABLE DEVELOPMENT IN IKPOBA OKHA, NIGERIA.

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Abstract

The work examined the enhancement of food crop production through sustainable development in Ikpoba-Okha of Edo State. It looked at the various problems that confront food crop production with a view to solving such problems and sustaining high level of productivity overtime. In order to ascertain some of the problems, data were collected by administering three hundred (300) questionnaires which was divided into one hundred (100) in each study zone of Egbire, Ogbeson and Ologbo. The questionnaires were administered using the systematic random sampling method. It was observed from the analysis that several factors militate against food crop production in the area such as: finance, lack of fertilizers application which can also be tied to lack of cash to purchase such, lack of modern working implements, reduction in the level of farm labour, inspite of availability of huge numbers of able-bodied youths and finally lack of improved varieties of seeds and seedlings. To overcome these problems, there should be a transformation from the traditional method of farming to a modern mechanized farming system; farmers should be encouraged to form farmer's cooperative societies to enable them access huge loan to purchase all the needed materials to achieve sustainable food crop production.

Keywords: Food Crops, Sustainable development, Agricultural institutions

Introduction

For the past fifty-six years Nigeria has been in existence, there has been the peculiar problem of the production of enough food crops to cater for the general populace to enhance maximum satisfaction. (Mogborukor, 2012). And according to Akinbode (2002), this serious problem has been a source of genuine concern to not only the government of the country but also to the citizens. Since attaining Independence in year 1960, many programmes aimed at tackling the basic problems of achieving sufficiency in food supply to feed the rapidly expanding population have been unattainable. The problems that confront most food crop producers in Nigeria who invariably are the peasant food crop cultivators are many, varied and fall into the following major categories according to Akinbode (2002), it includes:

(a) Natural resource supply problems involving land, labour and managerial skill;
(b) Problems of farm capital formation involving physical, mechanical, chemical, biological and financial bottleneck;
© Problems of production and distribution management in terms of the goals of production risk and enterprise combination inter alia;

(d) There are also the problems of institutional effectiveness found in organizations such as famers Union, partnership, cooperatives, marketing concerns and government agricultural institutions.

Agriculture has been the bedrock of the national economic growth and development before and after the attainment of independence in 1960. This was however not been after the 70's with the discovery of oil in Nigeria. However, it is on agriculture we depend for our daily bread. Also, it employs a substantial percentage of the nation's labour force. Not this alone, it also produces a high proportion of fibers and other raw materials required by the various processing and manufacturing industries. In order to continue to fulfill its roles in all these aspects, Nigeria and especially in Ikpoba-Okha which is the study area needs to be planned properly and transformed radically in this direction. This is where the issue of food security and sustainability plays a key role to the revitalization of the agricultural sector with a view of enhancing enough food crop production. And according to Reutlinger (1987), there is need for food security and by food security he refers to the accessibility of all people to enough food at all times, for an active and healthy life and in order to achieve this, there is the need for adequate supply of food items of quantity and quality in order to avoid undernourishment and malnutrition. Akinbode (2005), goes further to buttress this fact that, food security as an integral part of sustainable development, requires the production of adequate food both in quantity and in also quality to meet the demand of her population and not only that, there should be also the production of sufficient seeds and seedlings for next agricultural season. He explained further that for a country like Nigeria, to attain food security, she ought to expand her food production phenomenally above the current levels. Not only that, but must have the capability of post-harvest technology to process and store considerable quantities of food products that will ensure availability of adequate food supply all the year round.

Statement of Problem

In Ikpoba-Okha Local Government Area of Edo State, about 80% of the population is engaged in agriculture as an occupation with emphasis on food crop production. This is made possible by the abundance of large and fertile land but hampered by land tenure system, a practice which involves fragmentation of the agricultural land, lack of new innovations in farming techniques, lack of managerial skills, finance and the practice of traditional agricultural system without use of mechanical power. As a result of the aforementioned, farm holdings are predominantly small and hardly exceed one hectare. The major tools of farming comprise the hand-hoe and machete, axe and knives. These characteristics and other farm practices have been inherited from one generation to another. Certainly, this situation poses a formidable obstacle to agricultural modernization.

It is in view of these inherent problems in agriculture and especially food crop production, that the research

work is carried out to explore the possible means of enhancing food crop production in Ikpoba-Okha.

Study area

Ikpoba Okha area of Edo State in Nigeria, is located approximately between latitude 6°10' and 6°17' North of the equator and longitude 6°09' and 6°11' East (see fig.1) . It is drained by the popular Ikpoba river which acts as a reservoir and receives almost all run-off within the catchment area. The area falls within the equatorial climate (Af Koppen's climatic classification) with a double maxima rainfall in the months of July and September and short break in August often referred to as the August Break with experiences a minimum temperature of about 28^{0C} and maximum of 38^{0c} with relative humidity of over 90%.

With growth in population over the years which has led to rapid urbanization, most of the land surfaces have been cleared of vegetal cover and made bare. And as a result of which the original vegetation which is rainforest in nature have been transformed into a derived savanna with stunted trees and grassland.

The soil type is made up of ferrasols, precisely the red and brown soil with abundant free iron oxides. The weathering profile consist mostly of red and yellow earths and loose, poorly sorted sands, intermixed in some places with clay barns. Their nature makes it easy to cultivate and also suffer from excessive internal drainage and intense leaching, giving the soils very strong acid reaction. (Areola, 1982).

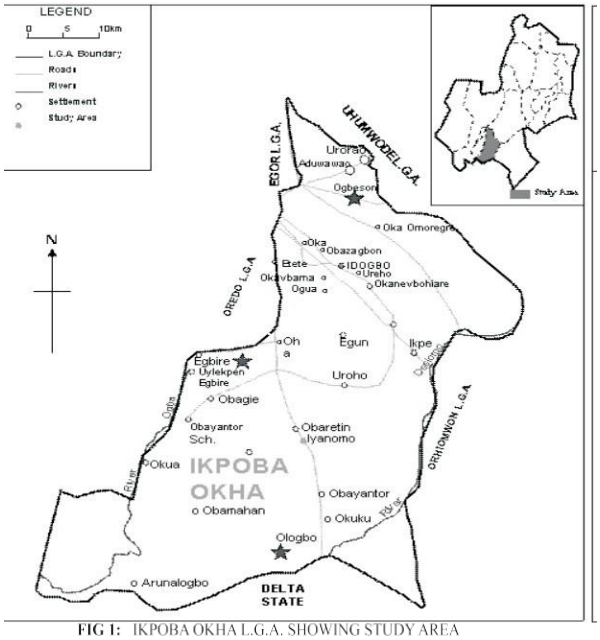

FIG 1: IKPOBA OKHA L.G.A. SHOWING STUDY AREA
Source: *Ministry of Lands and Survey, Benin City, 2013*

Conceptual Issues

This study is predicated on the concepts of sustainable development and food security. The purpose of food crop production is to obtain enough food or to procure enough food to meet individual requirement Ukoha (1997). According to Akinbode (2005), it is difficult to conceptualize and operationalize the phrase food security. However, the sense in which the word is used in this study implies and incoporates several concepts which is fused into one functional framework as explained here under. At least six other concepts are involved in the operationalisation of 'food security'. These include large-scale production of virtually all food crops and livestock to satisfy three basic needs of the people such as sufficient food to feed the population all the year round, surplus food products for export to other countries to earn foreign exchange for the government and provision of seeds

and seedlings for planting during the next agricultural season without resort to importation of these inputs.

Hitherto, the Nigerian agricultural sector has not succeeded in supplying any of these three needs. Apart from the exports of cash crops such as cocoa, cotton, palm produce, groundnuts and rubber, the country has not been able to export food crops to any other country. Also, the supply of improved seeds and seedlings has not been adequate for domestic needs.

In Nigeria, food crop production involves millions of peasant families each of whom grows various food crops on small parcels of land as a result of which many of them cannot feed themselves all year round while others barely succeed in doing so.

According to Segynola (2005), there are at least four aspects of the procurement of food in the process of attaining food security, which are vital for the promotion of sustainable development. Finally, we have adequate domestic (i.e. national, and/or local) production of food items by the people for whom the security is being sought. In this regard we have different systems of arable and livestock farming ranging from subsistence production (by small farmers) to plantations by rich individual and corporate, organized public sectors. Secondly, there is the issue of transferability of the food products from areas of food surplus to areas of food scarcity. This has national and international dimensions. At the national level the internal transportation systems are expected to be efficient; at the international level the importation of food is the issue at stake. Thirdly, is the aspect of having enough purchasing power to procure their food requirements. The issue here is bi-dimensional, namely; gainful employment and adequate per capita income. Finally, the people for who food security is sought should have the necessary nutritional knowledge so that they will be able to acquire the needed food combinations and so be able to feed adequately. Where these requirements are not available the problem of food insecurity will arise with its adverse effects examples of which include a sickly or unhealthy labour force, low productivity as a result of absence from work on health grounds, strikes and civil unrest due to hunger. Sustainable development is not attainable under these conditions. On the whole the phenomenon of food security is essentially ecological, educational, cultural, economical and political.

Sustainable development is multi-dimensional development strategy, and so has many connections with food security. The concept refers to the alleviation of poverty and the maintenance of environmental and ecological equilibrium in the process of exploiting resources of jobs, income, food and social services that promote the quality of human dignity, for the present and future generations. It is about human beings. Secondly, it involves a complex network of relationships between economic activities and environmental qualities, thus drawing up a trajectory with respect to the future of these relationships as a way of exposing the fundamental challenges of development of human survival (Baba, 1994). Thus, the concept recognizes that economic growth is intricately linked to

the environment and development in any given country and so growth must be geared towards the proper management of natural and human resources. NEST (1992) and Abumere (1997) referred to the concept to mean that in our use of environmental resources to satisfy current demands, we must not inflict irreversible damage on the environment in such a way as to jeopardize the ability of future generations to meet their needs. Segynola (1998, 2003a, 2003b, 2004) emphasized that the achievement of sustainable development must start with the establishment of effective and appropriate environmental planning and management policies, using sound socio-economic principles. The term sustainable development can be applied to almost every aspect of human activity. Hence we can talk of sustainable cities, sustainable farming in terms of new innovations in farming techniques that will not hamper the soil and the use of modern farming implements and systems that will restore the soil, new seedlings and high level of productivity to meet the demand of the growing population.

Research Method

In order to ascertain the problems of food-crop production in the area, data were collected by field survey through administration of three hundred questionnaires which was divided into one hundred (100) in each study zones. The three study zones are Ogbeson in the Northern part of the area, Egbire located at the western side and Ologbo located in South south (see fig.1 and table 1). Out of the one hundred questionnaires administered in each zone, ninety (90) respondents were found to be appropriate for the analysis in terms of proper and complete answering of the question items on the questionnaire from each zone. The questionnaires were administered using the systematic random sampling method. This involves giving out questionnaires on the basis of five household intervals in some major streets, and the literate persons in each household were interviewed. Descriptive statistics and diagrams were employed in analyzing the data.

Table 1: Zones of food crop production in Ikpoba-Okha

Zone 1	Ogbeson
Zone 2	Ebire
Zone 3	Ologbo

Source: Field survey (2016).

Result and Discussion

The data collected from the field are presented in tables 2, 3 and 4.

Traditionally, the three zones of Ikpoba-Okha where the study was carried out is an agro-settlements whose inhabitants are virtually subsistence farmers. With the establishment of schools, churches, small scale traders, post-office and health institutions, these three zones began to have population that consist of a large proportion of farmers and non-farming population. The phenomenal annual increase in the population therefore, has led to increase in food requirements of the population. With this growing population means expanding demand for food products in the area which is more than what the farmers alone can supply.

Table 2: Food crop production and rank in zone 1 (Ogbeson)

Food Crops Produced	Respondents Amount Produced (Metric Tons Annually 000)	Percentage (%)	Rank
Cassava	15	16.7	1
Yam	12	13.3	2
Cocoyam	8	8.9	5
Rice	12	13.3	2
Potato	7	7.8	7
Maize	10	11.1	3
Okro	8	8.9	5
Melon	7	7.8	7
Pepper	6	6.7	9
Total	5	5.6	10
	90	100	

Source: Field work (2016).

From Table 2, Cassava ranks the highest food crop produced in this area with 16.7% and 15,000tons annually. This is followed by yam, (13.3%), maize (11.1%), cocoyam and Okro (8.9%), Potato and Melon having 7.8% and others follow.

Table 3: Food crop production and rank i n zone II (Egbire)

Food Crops Produced	Respondents Amount Produced (Metric Tons Annually 000)	Percentage (%)	Rank
Cassava	18	20	1
Cocoyam	5	5.6	8
Yam	14	15.6	2
Rice	10	11.1	5
Potato	5	5.6	8
Maize	12	13.3	3
Okro	10	11.1	5
Plantain	6	6.7	7
Melon	8	8.9	6
	2	2.2	9
Pepper	**90**	100	
Total			

Source: Field work (2016).

From Table 2, Cassava ranks the highest food crop produced in this area with 20% and 18,000tons annually. This is followed by yam, (15.6%), maize (13.3%), rice and Okro (11.1%), Plantain (8.9%), Melon having 6.7% and others follow.

Table 4: Food crop production and rank in zone III (Ologbo)

Food Crops Produced	Respondents Amount Produced (Metric Tons Annually 000)	Percentage (%)	Rank
Yam	25	27.8	1
Rice	15	16.7	2
[illegible]			
	10	11.1	4
Cocoyam	10	11.1	4
Potato	7	7.8	6
Maize	9	10	5
Okro	6	6.7	7
Melon	3	3.3	8
	3	3.3	8
Pepper	2	2.2	10
Total	**90**	100	

Source: Field work (2016).

From table 4, yam production is highest with an annual turnover of 25,000 metric tons (27.8%). Ranking second is rice with a production level of 15,000 metric tons (16.7%). The reason for increase in production of rice in the study area is due to presence of river Ossiommo and its abundance of alluvial flood plain soils which the residence has taken advantage of. Next is cassava and cocoa yam with 10,000 metric tons annually for both with (11.1%). Others follow as shown on the table.

Variation in food crop produced in the different zones

From the tables 2, 3 and 4 it indicates that there are different amount of food crops produced in the different zones. This is shown with the aid of compound bar graph below:

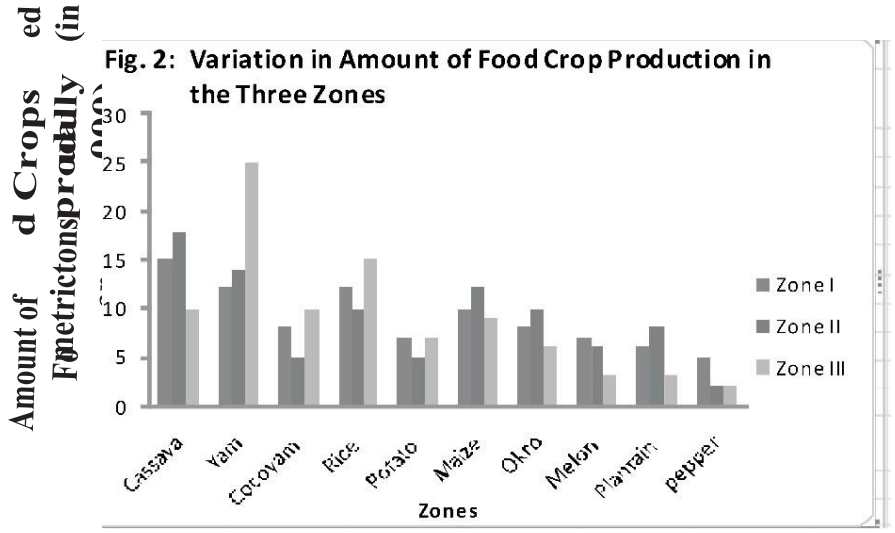

Table 5: **Perceived Problems of Food Crop Production**

Problems of Food Crop Production	No of Respondents	Percentage (%)
Reduction in level of farm labour	10	11.1
Shortage of farm land	5	5.6
Lack of Fertilizers		
Lack of finance (cash)	15	16.7
No modern working implements	25	27.8
Lack of improved varieties of seeds and seedlings	12	13.3
Lack of storage facilities	9	10.0
Total	6	6.7
Source: Field work, 2016	**90**	**100**

The problems of farmers in Ikpoba-Okha and its environs that militate against crop production are many and varied as can be seen from Table 5. Financial constraint is, no, doubt, the most potent and limiting factor to farmers throughout the area (27.8%). Invariably many farmers who are willing to expand their farming activities substantially could not do so because they cannot afford the extra cost required for the expansion. Not this alone, but also farmers cannot afford the exorbitant cost of pesticides that they need to apply to their crops. Thus, in most cases, pests destroy substantial proportions of farms crops on the farms. This has left the margin of profit that such farmers make from their farm outputs to be very small indeed if any. Other problems that confront farmers include absence of good storage facilities.

Most of the farmers in Ikpoba-Okha and its environ lack the necessary collateral security to borrow money from the banks to enable them make huge investment in their farming. Even if the collateral security is there, there are clumsy bottlenecks by most banks in giving out loans to individuals for lack of trust. The reason for this is not farf etched as most of the farmers when given such money are not usually invested in the farms rather, they prefer to marry more wives and spend the money on other unnecessary investments which do not yield income.

In the ease of shortage of farmlands, the tenure system should be overhauled in such a way that individuals and family do not own land rather, land is owned corporately by governments who has the sole right to give it out.

One of the factors militating against farmers productivity and hence the amount of food production is the use of non- mechanized implements such as hoes and cutlasses. This problem can be overcome by farmers in the area forming farmers corporative society which will enable resources to be pulled together to buy tractors and other modern farming implements.

In terms of storage facilities silos and agro-based industries for the processing of food crops should be put in place by farmers through corporative societies. When this is done, it will take care of excess harvest which will be processed into finished products to be sold in the markets for returns.

Akinbode (2005) argues convincingly that the way agriculture can

be well developed through mechanization. Therefore, mechanization of agriculture is highly welcomed in all its facets.

Conclusion

The study has been able to identify some of the problems militating against food crop - production in Ikpoba-Okha. It is hoped that if all the suggestions that are drawn below are followed with all the seriousness it deserves the level of production will be enhanced within the area.

Recommendations

The study has been able to identify eight problems that are facing food crop production in Ikpoba-Okha. These are: reduction in the level of farm labour, shortage of farmland due to land tenure system practice, lack of finance to purchase fertilizers, non-availability of modem working implements, no enough improved varieties of seeds and seedlings and lack of storage facilities.

In order to overcome these problems and have greater productivity in food crop production in order to sustain the ever growing population, there should be greater participation of more people in agricultural activities even if it were on part-time basis. In this wise, workers should be encouraged to operate small farm holdings in order to produce food crops that will supplement what is available in the local markets.

Improved varieties of seeds and seedlings, suckers and cuttings of different crops should be made available to farmers to plant their farms. The importance of improved seeds and seedlings cannot be overemphasized as they germinate early, grow and mature fast. Their yields are abundant, palatable and more nutritious than the traditional varieties of crops. Also, the improved varieties of crops are much more resistant to diseases than the traditional plants.

In order to attain sustainable development in agriculture with emphasis on food crop production, there is need to judiciously manage the environment, especially the soil in order not to inflict irreversible damage in such away as not jeopardize the ability of future generations to meet their needs. This can involve the incorporation of modern farming method and the use of fertilizers into order to restore soil fertility and give high level of productivity to meet the demand of the ever-growing population. No this alone, post-harvest technology must be adopted in which various crops should be processed through agro-allied industries. No doubt, processing improves the quality of the crops and also make them storable.

Agriculture continues to hold the pride of place in communities nationwide. Ikpoba-Okha cannot be an exception. Whatever individuals, corporate bodies, government and nations can do to improve food crop product ion will be worth the effort.

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