
OILSEED CROP PRODUCTION FOR SUSTAINABLE DEVELOPMENT IN NORTH EASTERN NIGERIA

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ABSTRACT

The North-Eastern region is among the largest oilseed crop producing areas of Nigeria and oilseeds are important next only to food grains in terms of hectareage, production and value. As the country's agricultural scenario is undergoing a rapid transformation which will lead to impressive performance in the food front by 2020, the oilseeds scenario also need to be considered to ensure increase in the domestic production in the oilseed crops on a sustainable bases. The main oilseed crops produced in the area include groundnut, sesame, soybean, sunflower and castor oil in order of their importance and those need economic development in the region. The paper looked at the increasing interest and hectareage of oilseed North-Eastern, the challenges faced by producers and proffered suggestion for sustainable production of these crops which include provision of improved extension services, subsidies on inputs, marketing services and price incentives, improved production technologies, provision of improved seeds as well as processing industries for such crops.

Keywords: *Oilseed, Sustainable, Production and Development*

INTRODUCTION

Sustainability in agricultural systems incorporates concepts of both resilience (the capacity of system to resist shocks and stresses) and persistence (the capacity of systems to continue over long periods), and addresses many wider economic, social and environmental outcomes. Agricultural systems with high levels of social and human assets are more able to adopt to change and innovate in the face of uncertainty. This suggests that there are likely to be many pathways towards agricultural sustainability; no single system of technologies, inputs or ecological management is more likely to be widely applicable than another. Sustainability then implies the need to fit these factors to the specific circumstances of different systems (Chambers *et al*; 1989; Bunch and Lopez, 1999, Olsson and Folke, 2001; Pretty and Ward, 2001). The World Economic Forum on Africa, whose theme was "Re-thinking Africa's Growth Strategy" held in Dar-es-salam, Tanzania (May, 5 – 7, 2010), in their press release pointed to agriculture as the key to sustainable economic development in Africa. The conclusion of the Africa Forum, 2010 recognised agriculture as a "money – making" and an engine for sustainable economic growth for the Continent. (Oniane's, 2010) oilseed crop production, could be the major route to this Sustainable Economic Development being that most of them are tolerant to drought, low rainfall and low soil fertility and the financial capability of the poor resource farmers in this region. This paper was therefore written to highlight important role oilseed crops could play on sustainable development of the North –east region of Nigeria.

Oilseed Crop in Nigerian Development

Oilseed crop production in Nigeria has a long history and the oilseed have played a very prominent part in the development of Nigerian economy. Most of the oilseed crops grown

in Nigeria (groundnut, sesame, sunflower, soybean and shea tree which is not normally cultivated) have been part of the cropping systems in the north –east region and to date all these crops still form bulk of the crops grown in the region. Infact, one can hardly see a farmer in this region that do not include any of these oilseed crops in his/her cropping system, either as sole crop, in rotation or mixed with other cereal crops. Sustainable development in the oilseed crop production is a step in the achievement of government’s transformation agenda and the vision 20-2010, as it enhances the development of the people in the rural areas which will translate into sustainable development in the country. (Bindir 2012). With the prevailing situation in Nigeria, where it is believed that about 60% of the people live below the poverty line, it is apparent that one of the fastest way is for each area to identify crops in which they have comparative advantage and to develop such crops. The north – eastern region has this advantage in almost all the oilseed crops grown in the country. Bindir (2012) suggested that for Nigeria to be among the top 20 economies by 2020, it should have a micro agenda called agenda 1777. Which he reported should be based on:

- i. A united Nigeria (the 1)
- ii. For the period of the next 7 years – 2012 – 2019 (the 1st 7)
- iii. That Nigeria will be identified with 7 globally, acclaimed quality branded products from its knowledge system (the second 7).
- iv. That 7 indigenous Multi-National Companies (MNC) will emerge in Nigeria to ensure that the knowledge system will nurture to support industry and generate high level intellectual property for both local consumption and export (the third 7).

The north – east can key into this and develop their oilseed crop production to an indigenous Multi-National Company in the region that can process globally acclaimed oil products such as sesame oil, groundnut oil or soy oil, thereby agriculturally and economically developing the region. Increasing food availability including vegetable oil, to eradicate poverty has been the pre-occupation of most developing countries where population increases far outweigh increase in agricultural production (Spore 2010). According to Wikipedea (April, 2012), food security refers to the availability of food and one’s access to it and that it is not just food but the quality of the food also matters and oil or plant fat plays a key role in human nutrition.

Steps towards enhancement of sustainable development of oilseed crop production

For the development of the oilseed crop production to achieve its desired position to contribute to sustainable development in the region, the following steps need to be taken:

- i. Research and extension

Areas of research need in oilseed production in the north – east region include agronomic practice for most of the crops especially in the area of sowing date, population density, fertilizer requirements and application, and cropping system which according to Acquah (2005) and Mshelia (2012) are all significant in influencing the yield and quality of most oilseed crops. For some of them like soybean, groundnut and sesame a lot have been done but more need to be done in the region to domesticate the practices to the varying ecological conditions. Another area of research in the production of oilseed crops is the appropriate cropping system. Most farmers in the area practice mixed cropping and in such practices, yield are sometimes compromised or affected by the mixtures as well as

the planting pattern or crop geometry (India council of Agricultural Research, ICAR; 2006). The response of the various oilseed crops differ in mixtures depending on soil moisture availability, nutrient and other resources (Reddy, 2004). Fertilizer requirements and application is another area that needed research, generally local farmers believe that oilseed crops do not need fertilizer, but research have shown that especially phosphorus and potassium are needed in addition sulphur and calcium are required by these crops for increased oil (Chiezey, 2001) hence there is need for update of research on requirement by these crops and time of application (Weiss 1983; Fadi and Gebauer, 2004). There is also need for breeding of improved varieties of these crops in terms of days to maturity, oil content, pests and disease resistance (NEEDS, 2004). For shea which is a tree crop, the maturity period is a major constraint to its production, as the crop takes between 7 to 10 years before it start fruiting and at least 15 years to reach full fruiting, hence research is needed in the development of short varieties that can start fruiting in 3 to 5 years. Also of significance in shea production, is fertilizer requirement and development of varieties that can fruit every year as against the natural varieties that have the habit of fruiting alternatively (i.e. skipping a year). In addition to the research need, there is a wide gap between research, extension and the farmers, as even in areas where improved technologies for this crop have been developed, they have not been transmitted to the farmers.

- ii. Input and input subsidies – provision of inputs and input subsidies is also significant as most of the inputs like fertilizers, herbicides and pesticides that are needed to boost the yield of these crops are above the means of most of the farmers. For there to be sustainable production of the crops, the governments at various levels need to come to the aid of the farmers in acquiring these inputs which will enable them to increase their farm sizes especially if tractors needed for land preparation is made accessible to farmers, this will go a long way in the sustainable development of this area.
- iii. Value addition – this is an important aspect of crop production as it enhances the price of agricultural commodities. This can be done through various levels of processing. According Sajo (2012), processing can be on farm which include threshing and other primary processes. This prepares the product for easy transportation and subsequent storage. Another level of processing leads to higher value addition and this may require more elaborate work and sophisticated equipments to transform the product.

For some of this oilseed crop, rural women have developed local techniques for processing. Oil extraction in groundnut, sesame and shea nut is now locally done, but this need standardization to be able to enter the international market and compete globally for more economic gain. Sustainable development in oilseed crops production is also feasible only when government can provide cottage industries for processing the products. For crops like soybean it is more difficult to extract oil from it locally, though it is a major oil crop which have high prospect in the north – east region. Currently, southern Borno, especially Biu and Hawul local government areas are becoming major producers of soybean through the effort of PROSSAB, but the major constraint is processing resulting in low price at harvest time. Value addition to oilseed crops for sustainable development in the region could also create more employment and empowerment, for example; -

- a. Sesame production and processing in communities especially in the rural areas has assisted in empowering the poor resource farmers and other rural dwellers. The development of appropriate processing technology has also received attention by researchers in Nigeria resulting in developing a more convenient dehulling technique for oil extraction. Development of house holds and small – scale farmer has been initiated by fabricating prototype hydraulic hand – press. This had made oil processing from sesame easier and faster for the rural women (Announye *et al*, 1998).
- b. In Hong local government Area of Adamawa State, there is a women association, known as “Groundnut Oil-milling Association” which pull their resources together to mill their groundnut into oil and the cake, thereby getting more economic benefits (Sajo, 2012).

Export and Market Incentives

This has increased foreign exchange of sesame as reported by Lawal (2007) that Nigeria earned over 789 million US dollars from export of sesame along. The oil crops considered are crops with high export values, but the north-east is located far from any export processing zone of the country. To boost their production there is need for government to provide facilities for the farmers to have access to export opportunities. Hence there is need for location of an export processing centre for these crops in the region, so that farmers can get better price for their products, which will encourage the farmers to go into large scale production. Commodity prices determine the sustainability of its production. When farmers go into cash crop production which most of these oil seed considered as, especially for those that do not have any way of processing like soybean and sesame. Hence when prices of these crops fall, farmers disengage from their production. Typically, when PROSAB re-introduce soybean production in southern Borno around 2002 – 2006, market prices were high and there was ready market for it, a lot of farmers started growing the crop, the production dropped because the high price and market stability were not sustained.

SUMMARY

Oilseed crops are crops of high value, which could go a long way in improving farmers’ income and help in sustainable development of the rural areas. These can help in achieving the government vision 20-2020 and serve as an alternative to the mono-product economy that the government is currently battling with. However, there need to be concerted effort in improved production in these crops through improved agronomic practices, and research in to areas like sowing date, appropriate plant population density, soil fertility management, appropriate farming /cropping systems for the crops, rural processing, improved storage and market incentives so as to sustain farmers interest in the production of these crops.

RECOMMENDATION

For sustainable development of the production of oilseed crops in the area, the following recommendations are made:

- There should be sustainable productivity of land through fertility management as with intensive farming system practiced in most of these areas, the carrying capacity of the land has been on the decrease. Hence fertilizer should be made accessible and affordable to farmers

- There is need to have more number of extension agents / officers in the area to train farmers on improved technologies in the production of these crops.
- Oilseed crops deteriorate fast because of the high oil and protein content hence need for provision of good storage facilities to farmers
- Improved rural infrastructure through road construction for easy evacuation of these products from remote areas.
- Collaboration between government and private sectors should be encouraged to improve the funding of agricultural projects.
- Government and individuals involved in some form of agricultural enterprise should establish plants to add value to these crops.
- Small processing units should be promoted in rural areas. These could undertake primary processing such as grading and clearing of produce for adding value.
- Provision of soft loans and subsidies on input like fertilizer, herbicides and insecticides and machineries for mechanized production.

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