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Increasing the Value of Agricultural Products in the Face of Global Economic Recessions: Anambra Experience

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Abstract

The Paper examined the increasing value of agricultural products in the face of global economic recession in Anambra State. The paper revealed that Anambra State is endowed with human and natural resources and if properly harnessed, can go a long way in arresting the food insecurity in the State and alleviate the poverty level of the poor masses. The study showed that yam, cassava, livestock and rice are the most common products produced in almost all the Local Government Area of the State. Although Anambra State is highly urbanized, its forest reserve covered 31897 hectares of land and the vast primary products can be transformed into secondary products, given the available and affordable technologies required. The paper revealed that in addition to ₦150 million naira disbursed in 2007 and 2008 at an interest rate of 8.0%, the State Government has completed plans to disburse another ₦3.0 billion naira to small-scale businesses including farmers to boost their agricultural potentials. It was concluded that yield increasing technologies such as tractors, improved varieties of seeds, seedlings, livestock, agro-chemicals and agro-machines should be highly subsidized by the state government to enable the resource poor farmers meet up with the yawning demands of improved products.

Introduction

The underdevelopment of Agriculture in the pre-independence era had been attributed to the use of the agricultural sector as the major source of raw materials for industries based at the home country of colonial masters. The agricultural products in their crude and raw forms were exported to foreign processing firms through the institution of licensed produce buying agents who act as middlemen for grading and standardization of agricultural commodities according to approved prices. The farmers or producers were regarded as price and risk takers without a bargaining power.

The exported raw material were processed to change them in form and of a higher value and then imported to the country through some foreign trading firms and agencies operating in Nigeria at a higher price. Human power and crude farm implement were used for agricultural production during this era which extended much beyond the attainment of independence in 1960. Although the production technology was low, some incentives were given for the production of export crops, namely oil palm, cocoa, rubber, groundnut etc. The Ministry of Agriculture provided incentives in cash and kind for the cultivation of oil palm in the then Eastern Region. Farm settlements were formed and plantation agriculture adopted which led to the establishment of more than 10,000 hectares of oil palm in 1980 by the State and private individuals.

Processing of fresh fruit bunches harvested from the oil palm trees was mainly by traditional methods with huge loss of value due to the inefficient method of pressing out the oil. The Extraction Efficiency (EE) of two methods of processing palm oil namely the traditional bare hand pressing and the screw press was calculated in old Bendel state in 1985. The study showed that traditional hand pressing used by many of the farmers yielded 42.0% efficiency in oil. On the other hand, the low technology method of hand screw press used by a few privilege processors yielded a higher value of 66.57% of oil (Obiechina and Agboma 1985). The high technology modern oil mills are equipped with automatic press to yield more than 80% extraction efficiency. The increase in value at each stage of the product from production to marketing creates wealth and dignity for agricultural labour. The value chain can thus lead to division of labour based on skills and specialization. This in turn could create the development of local technology and techniques for products standardization, market segmentation and market sharing for farmers, processors, agricultural service providers and agricultural input

suppliers. The attainment of such a defined agricultural sector will pave the way for investments in agriculture as a business enterprise.

The objective of this paper is to seek ways and means of transforming agricultural products to their highest and best forms in order to attract higher values in the face of increasing production costs and dwindling budgeting allocation to agriculture.

Agricultural Resource Base of Anambra State

(i) Land

Anambra State has a land area of 4.416 sq. km, 70% of which is arable land under cultivation at any given time. Over 50-70% of the land is underutilized. Land ownership is primarily on community and family bases. Most of the land is unregistered and not capitalized. Government has the final say on land. The soil is good but erodible. There is limited soil conservation practices and poor accessibility to distant farms.

Farming for many on the farm is regarded as way of life. Farm labour income is lower than non-farm labour income. There is limited access to infrastructure, education and managerial ability.

(ii) Capital

Private input dealers for non conventional inputs such as compound fertilizers, fingerlings, improved feeds for fisheries and livestock, and oil palm seedlings exist in the State. Trained fabricators for grains, tubers, fruits and oil palm/kernel are found mainly at Onitsha, Awka and Nnewi. Publicly procured fertilizer at government controlled prices has often arrived late for the current farming season. Institutional arrangement and access to micro credit exists in the State. Farm power and electricity are scarce.

(iii) Government or Public Sector

Inconsistency and reversal of agricultural policies exist. Programmes are poorly designed and implemented. There is questionable synergy between some programmes which seem to complement each other. There is observed low annual budget allocation and release of fund for agricultural activities and projects. Support to agricultural research and extension have been observed to be inadequate, except in cases where counterpart fund is required for Development Partners Assisted Projects.

(iv) Interest Groups and Stakeholders

Consumers bargaining power are often isolated. Also consumers leverage in aggregate demand for farm output are also neglected. There is no clear interphase for farmer-consumer-government officials' interaction. There is the need for intensification and standardization of the activities of farmers' organization. The real small holder resource poor and vulnerable farmer groups are poorly represented in agricultural fora. There is the need to deploy government officials with requisite training and experience to handle issues concerning farmers. Politicians and policy makers responsible for agricultural policies should be properly assisted and advised with alternative scenarios for future policies.

(v) Natural Environment

There is abundance of good weather, adequate rainfall and sunshine. The rivers, lakes and ponds are sufficiently good. The wildlife is threatened with suitable habitation. Watersheds, lowlands and wetlands are available at good locations. There is good stock of indigenous agricultural knowledge to complement with improved practices. The vegetative cover of tree and grasses is moderate.

Agricultural Potentials of Anambra State

(i) Crop, Livestock and Fishery Resources:

All the 21 local government areas of Anambra State are involved in the production, processing, storage and marketing of several agricultural products in varying degrees. Yams, Cassava and livestock are the common products observed in most of the local government areas as shown in Table 1. Fish is predominantly produced in Anambra East, Anambra West, Ayamelum, Ihiala, Onitsha North and South, Orumba North, Ogbaru and Oyi mainly from the natural water bodies which include Rivers such as Niger, Anambra, Ezu, Mamu and their tributaries. Agriculture has also sprung up in many upland communities where fish production has become an accepted business enterprise.

(ii) Forestry Resources

Although Anambra State is highly urbanized, the importance of retaining and sustaining forestry resources is not lost to the government. Timber and wildlife had in the past been over exploited due to weak enforcement of the available

but poorly defined legislation. The forestry reserves in the State range from 110 hectares in Ebenebe, Awka North to 12,098 hectares in Ossamala in Ogbaru. The distribution of these reserves is shown in Table 2.

Agricultural Policy Objectives and Targets

According to the Blueprint for Development of Agriculture in Anambra State, the following objectives and targets have been identified for the State:

(i) Objectives

- To increase output per unit area for all major crops.
- To improve the breeds and increase the output of fish and livestock.
- To make agricultural land tractorable and allocate same to genuine farmers.
- To disseminate improved seeds, best practices and provide improved technologies.
- To increase production and processing capacity especially for women and youths.
- To promote Public – Private – Partnership (PPP).
- To increase access to credit.

ii) Targets

The target is to achieve at least a doubling of the total hectareage of all crops, number of livestock and number of fisheries by 2012, In addition, the achievement of the doubling or tripling of output per unit of operation is targeted for crops livestock and fisheries.

Classification of Value – added Agricultural Products

From the production of primary agricultural products to its refined processed forms, different levels of skills, knowledge and technology are required. Each processed primary product goes through some stages of processing which costs time and money but conveys a value higher than the associated cost of producing it.

As shown in Table 3, most of the primary products in Anambra State can be transformed into Secondary products given the available and affordable technology to the farmers or processors. The level of technology required to

convert maize, cassava, rice, fruits and oil palm to their best refined forms and by products at the tertiary level is high and often scarce and costly.

For livestock, the conversion of primary products to Bacon, Sausages, Cheese, Glue and Leather required relatively high technology which is often available only to multi-national organization and large local businesses.

Low level of technology is required in the conversion of yam tubers, plantain and banana into flour and chips. The same low technology is required to convert bamboo sticks into furniture and toothpicks.

Technology provides the best and least cost alternative to agricultural development in the face of global economic recession. Given the challenges of climate change, spiraling energy and labour costs, farmers cannot cope with increased costs of farm inputs and agricultural services. At the secondary and tertiary stages of transforming agricultural products, storage and shelf life are enhanced. In addition, the transformed products become more acceptable for marketing at the local and international markets where they have to compete with comparable products.

Roles and Responsibilities of Government, the Private Sector and Farmers

Farmers expect the government to do the following:

- i. Adopt measures to partially compensate for economic losses resulting from a state policy of food abundance and excess capacity in Agriculture.
- ii. Provide equality of opportunity to share in the fruits of national economic progress with government support to educate, train and assist employable rural people to become economically productive.
- iii. Provide access to improved factors of production including credit at subsidized rates.
- iv. Seek the right of organizing themselves as pressure group to cope with problems of price and production instability.
- v. Demand that Government interference in the economic structure of farming be regulated or controlled.
- vi. Development of local and foreign markets, unhindered by barriers.

Government on the other hand demand the following from the private sector and farmers.

- i. Availability of food and fibre for the growing population and growing income levels for domestic and foreign buyers.
- ii. Flexibility in production capacity and storage to meet emergencies.
- iii. Growing technical and economic efficiency in agriculture.
- iv. Controlled reliance on market price mechanism to allocate resources,
determine what to produce and how much to produce and to distribute income.

Research Institutions and the Availability of Relevant Technologies

The institutions involved in the national agricultural research system include the following:

- a. National Agricultural Research Institutes (NARIs)
- b. Agricultural Universities
- c. Agricultural Faculties in the Universities
- d. Agricultural Development Programmes of the States Ministry of Agriculture.
- e. International Agricultural Research Centres (IARCs) and
- f. Some Private Organizations.

Some of the institutions that are relevant in this paper are presented in Table 4. The low and medium level technologies are available and disseminated to farmers from these institutions. The requisite technologies for root and tuber crops processing and storage are transferred to farmers by the training and re-training of local fabricators at the National Centre for Agricultural Mechanization (NCAM), Ilorin. In Anambra State, the trained local fabricators have successfully built processing machines for farmers groups at Ebenebe, Awkuzu, Ifitedunu, Nteje, Ossamala, Ogbunka etc.

The technologies from NIFOR, NIHORT, NSPRI, NAPRI, ARAC and NIFRI are transferred either directly to farmers or through the ADPS. The

idea is to bring those technologies close to the rural communities, where farmers are made to own the technology transfer programme.

The higher forms of technology required to produce by-products such as ethanol, glue, corn flakes, ceramics, wines etc involve huge capital outlay that can only be afforded by corporate organization. Therefore, farmers and farmer groups should diversify into the conversion of agricultural products that require low and medium scale technologies.

Conclusion

It is paradoxical that while agriculture has been acknowledged as a sector that could become the mainstay of the economy, it is allocated a disproportionate percentage of the annual budget at the national and State level. The role of agriculture in food security, employment generation and income earning are well known from available statistics. It is often allocated 1.0 to 3.0% of the annual budget compared to other sectoral allocations of 5.0 to 10.0%. If this scenario existed before the global economic recession, then one shudders at what could become the future of agricultural allocation in annual budgets.

It has become imperative to look for alternative way of increasing the value of agricultural products than expecting huge budgetary allocations. Improved high yielding and disease/drought resistant varieties of seeds and breeds of animal must be continually developed to meet the challenges of food security. New and improved methods of land preparation, fertilization, soil conservation, water management and enterprise management must be introduced to farmers. Locally adaptable and fabricated processing machines must be distributed to farmers and cooperatives at subsidized prices to process and standardize their products.

Linkages between farmers groups and private agricultural merchants should be developed to assist in the forward pricing and marketing of agricultural products.

To attain above lofty goals the allocation to agricultural research and extension must be increased. There are several national, state and private institutions that could be supported with specific responsibilities and targets to provide result-oriented technology to address the problem of product value.

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Table 1: Agricultural potentials according to Local Government Area

S/NO	LOCAL GOVERNMENT AREA	AGRICULTURAL POTENTIALS
1.	Aguata	Palm fruit, Kola, Cassava, Maize, Livestock.
2.	Anambra East	Yam, Cassava, Fish, Potato, rice.
3.	Anaocha	Cassava, cocoyam, yams, livestock, fish.
4.	Awka North	Rice, cassava, cocoyam, yam, fish, livestock, vegetable.
5.	Awka South	Cassava, yam, cocoyam, livestock
6.	Ayamelum	Rice, yam, cassava, livestock, fish
7.	Dunukofia	Yam, cassava, maize, livestock
8.	Ekwusigo	Cassava, castor, seeds, cocoyam, yam, livestock.
9.	Idemili North	Cassava, palm fruit, cocoyam, plantain, yam, livestock.
10.	Idemili South	Cassava, palm fruit, cocoyam, yam, maize, livestock.
11.	Ihiala	Palm fruit, yam, cassava, fish, livestock, vegetable.
12.	Anambra West	Rice, yam, cassava, plantain, fish, potato, vegetable.
13.	Njikoka	Yam, cassava, fruits, livestock.
14.	Nnewi North	Yam, palm fruit, cassava, livestock.
15.	Nnewi South	Palm fruit, yam, cassava, livestock.
16.	Ogbaru	Rice, yam, fish, cassava, potato, vegetable.
17.	Onitsha North	Fish
18.	Onitsha South	Fish
19.	Orumba North	Rice, palm fruit, cassava, yam, fish, livestock.
20.	Orumba South	Rice, palm fruit, yam, livestock.
21.	Oyi	Rice, yam, cassava, maize, potato, fish, livestock.

Table 2: Forest Reserves, Locations and Hectarages

S/NO	FOREST RESERVE	LOCAL GOVT. AREA	HECTARAGE
1.	Mamu river Forest Reserve	Orumba South	4,618
2.	Aguaba Forest Reserve	Awka South	276
3.	Achalla Forest Reserve	Awka North	220
4.	Ebenebe Forest Reserve	Awka North	110
5.	Anambra Forest Reserve	Anambra West & Ayamelum	14,575
6	Osomala Forest Reserve	Ogbaru	12,098

Source: Forestry Department, Ministry of Environment, 2008

Table 3: Technology – Based Value Addition to Agricultural Products

S/N	Primary Products	Secondary Products	Tertiary Products	Technology Level
i	CROPS Maize Cobs	Roasted cobs, floor, popcorn, starch	Alcohol, Corn Flakes, maize oil.	Medium – High
ih	Cassava tubers and cuttings	Garri, Akpu, Odorless, Foofoo, Starch Lafun Flour, Chips, Pellet, Tapioca	Ethanol, Syrup, Glue, Alcohol	Medium – High
iii	Rice Paddy	Milled rice, ground rice, livestock feed.	Fibre Board, Ceramic Glaze Rice crispies, Spaghetti	Medium – High
iv	Yam Tuber	Floor, Chips	-	Low
v	Plantain/Banana	Floor, Chips	-	Low
vi	Fruits and Vegetables	Paste, Juices	Wines	Medium – High
vii	Oil Palm Fruits and Tree	Palm oil, Palm Wine, Palm Kernel Cake,	Gum powder, Ink Vinegar, Ceiling	Medium – High

		Soap, Broom Rope, Potash, Tooth-picks	Sheets, biogas	
viii	Bamboo Sticks	Cane furniture, toothpick, picture frames, fence materials, roof and wall panels.	-	Medium
ix	Timber log	Planks, Purlines, Electric Poles	Furniture	Medium
x	LIVESTOCK Poultry birds, piggery, Cattle	Eggs, Dressed Meat, Hides and Skin.	Bacon, Sausages, Cheese, Glue, Leather Belts	Medium – High
xi	Fish	Smoked/Dried, Fish Meal, Fish Cake, Fish Oil.	Canned Fish	Medium

Table 4: Relevant Institutions, Mandate Products and Available Technologies

Research Institute	Mandate	Available Technologies
CROPS Root Crops Research Institute (NRCRI) Umudike.	Yam, Cassava, Cocoyam, Potatoe, Ginger.	High yielding, disease resistant varieties, processing technology.
Root and Tuber Expansion Programme/Federal Ministry of Agriculture & Water Resources Abuja.	Yam, Cassava, Cocoyam, Potatoe, Ginger.	High yielding, disease resistant varieties, processing technology.
National Cereals Research Institute (NCRI) Badeggi.	Rice, Maize, Soyabean, Sorgum, Sugarcane etc.	High yielding, disease resistant varieties, processing technology.
Forestry Research Institute of Nigeria (FRIN) Ibadan	Forestry, Agro forestry and wildlife.	Improved seed varieties conservation, environmental control, technologies for timber and pulpwood feature.
Nigerian Institute for Oil Palm Research (NIFOR) Benin.	Oil Palm, Coconut, Raffia palm, Date palm and end uses.	Improved varieties, processing technology.
LIVESTOCK National Animal Production Research Institute (NAPRI) Zaria	Cattle, Sheep, goat Piggery, Poultry etc.	Genetic Improvement, breeding, feed production.
National Veterinary Research Institute (NVRI) Vom.	Animal diseases	Vaccines, disease control etc.

<u>FISHERIES</u> Nigerian Institute for Oceanography and Marine Research (NIOMR) Lagos.	Species of fishes and marine form of life in brackish waters, coastal waters and ocean.	Breeding of different species control of pollution and fishing in territorial waters.
African Regional Aquaculture Centre (ARAC) Aluu.	Indigenous fish species.	Fingerling product technology, feeds and table cultures, training.
National Institute for Freshwater Fisheries Research (NIFER) New Bussa.	Freshwater fish species.	Fingerling production and table fish technology under aquaculture, feed production disease control, processing etc.
<u>SPECIAL AREAS</u> National Agricultural Extension and Research Liaison Services (NAERLS) Zaria.	Dissemination of appropriate technologies, collation and evaluation of information.	Technology meetings, training and workshops on all aspect of agric.
Nigerian Stored Product Research Institute (NSPRI) Port Harcourt.	Post-harvest technology for tubers, grains, fruits, vegetables etc.	Design and fabrication of machines, Training etc.
Federal Institute of Industrial Research (FIIRO) Oshodi.	Upgrading indigenous production technologies, industrialization projects.	Engineering designs and fabrication of equipment is agric and non agric sectors.
International Institute for Tropical Agriculture (IITA) Ibadan.	Roots and Tubers, Cereals, Other Agricultural Products.	Training of technologists, adaptation of machine for processing, storage to local conditions.
National Centre for Agricultural Mechanization (NCAM)	Design of Agricultural Machines and Fabrication.	Train and distribute fabricated improved tools and machines to farmers.