

AGRO-PROCESSING TRAINING

Module 1: Agro-Processing in Nigeria

One of the major differences between the developed and developing countries is the culture of adding value to commodities; whilst the developed world maximizes the value to its exports the developing world sells raw commodities without any value input.

Field interviews with Friesland, Chi-Vita, Coca-Cola and Dangote shows that West Africa imports over \$2billion and \$1billion milk powder and fruit juice concentrate respectively. However, little attention has been given to the value chains through which agricultural products meet end-users within the country and abroad.

The magnitude of opportunity losses caused by this neglect becomes obvious if one considers the added value and employment gains that can be generated along agro value chains from commodity to consumption.

Module 2: The Agro-Processing Industry

A common and traditional definition of agro-processing refers to the subset of manufacturing industry that processes raw materials and intermediate products derived from the agricultural sector.

In a study conducted by UNDP which involved Individual in-depth interviews with major agro-processing firms, it was revealed that an overwhelming \$10billion Private Sector Investment Opportunities exist in the agro-food industry. This includes:

- Establishment of fruit concentrate processing facility in Nigeria to supply over \$1billion market in West Africa
- Investment in large scale cassava plant to exploit over \$2billion starch market in West Africa
- Commercial cultivation of soya bean and other oil seed plants in Common Market for Eastern and Southern Africa (COMESA) and West Africa to meet over 400,000tons supply gap
- Investment in commercial production of sorghum in East and West Africa to serve the breweries and the World Food Program
- Intensive production technologies for fresh vegetables to exploit increasing urban market demand
- Production of milk concentrate in West and Southern Africa to exploit over \$2billion urban market
- Aquaculture/Fish Production; Nigeria alone imports over \$900million of fish.
- Maize and rice production to exploit over \$5billion domestic market

Agro-processing is important for many reasons, chief of which is a reduction in post-harvest losses.

Module 3: The Best Practices of Agro-Processing

For the best agro-processing experience, the following methods should be adopted;

- Use raw materials of good quality
- Minimize wastage during handling, preparation and processing of raw materials and packaging of processed foods
- Use appropriate technology and process equipment to minimize energy consumption

- Minimize the wastage of water by reasonable care during preparation and processing without sacrificing quality
- Use recyclable or biodegradable packaging material as far as possible
- Recycle raw material and process waste as far as possible

Module 4: Types of Agro-Processors

Nigeria is blessed with abundant resources but we have consistently failed at maximizing the use of these resources because of our inclination to sell raw products to nations who will process or refine and then sell the finished goods back to us at ten times the cost of the raw material e.g. Crude Oil/ Petrol, Cashew Nuts/Cashew Snacks, Cocoa/ Chocolates etc.

The following are viable agro-processors:

- Oil Expellers
- Extruder for Full Fat Soya
- Animal Feed Mills
- Fish Pellet Plant
- Garri & Fufu Production Plants
- Palm Oil Mill
- Multi-grain thresher
- Maize sheller
- Fish Dryer
- Multi-purpose dryer
- Pelletizing machine (fish/ livestock)
- Rice De – Huller
- Palm Kernel Cracker/Separator
- Chicken Quartering Machine
- Shea Butter Processing Plant
- Soap Production Machine

- Block making machine

Agro-processing can be classified into three major commodity groups: Crop processing, Livestock processing, and Fish processing. Another latent area is forest wood processing.

Module 5: Determining Your Agro-Processing Niche

In determining your agro-processing niche, the following should be considered:

- Enhanced agricultural productivity and increased farm household incomes
- It should be able to provide year-round of affordable safe and nutritious food
- It should be able to create jobs for rural and urban youth
- A good agro-processing factory should be able to produce fortified foods for vulnerable groups in society.
- Ensure it establishes indigenous food standards
- It should be located at areas close to raw materials to be processed, as well as where they will be utilized. Large quantities of agricultural “waste” produced in one location which can be transformed into useful products such as animal feed need to be closer
- it should reduce importation of similar or foreign foods and conserve foreign exchange
- it should meet the standards of export to sub-Saharan countries with inadequate resources for agriculture

Module 6: Setting Up Your Agro-Processing Business

To start a food processing and packaging business as a manufacturer in Nigeria, you must be registered with the National Agency for Food and Drug Administration and Control (NAFDAC), Standard Organisation of Nigeria (SON),

Corporate Affairs Commission (CAC), and the Federal & State Ministries of Health.

How To Start Your Agro-Processing Business

- Select the Business You Want to Start
- Register Your Business with the Required Bodies
- Setup the Facility and Purchase the Required Equipment

Challenges of the Agro-Processing Business

Some of the challenges of food processing and packaging in Nigeria and many parts of Africa include:

- Lack of experience
- Low and unstable investment in agricultural research
- Financial Constraints
- Storage Constraints
- Farm Inputs Constraints
- Infrastructural Constraints
- Marketing Constraints

Module 7: The Economy of Agro-Processing

Employment creation and generation of income - The agro-industry can absorb a vast amount of manpower in the primary and secondary level of production.

Contribution to a nation's GDP and manufacturing industry - Most developed countries like Brazil and some Asian countries get huge returns from the export of agricultural products mostly in their processed forms.

Promotes socio-economic development - Strong synergies can exist between agro-industry, agriculture and poverty alleviation.

Regional stabilization and sustainability - The dense population of the urban areas can be mitigated by adequately developing economic activities in the rural region.

Integration into global markets - Most of what we produce are consumed in the country with only a little portion being exported. This is because we barely produce enough to meet our local demand which in turn fosters importation of supplementary products.

Improving food self-sufficiency - Processing can also extend the period of availability of food products, reducing the "hungry gap" between harvests and mitigating the seasonal rise in food costs at these times.

Constraints Facing the Agro-Processing Industry

National and Regional Policies- There is no separate policy articulation for the development of agribusiness except for the brief objectives stated in the 1988 Agricultural Policy for Nigeria document for agricultural commodity processing.

Infrastructure - The most serious business problem in Nigeria is the state of infrastructure and the biggest infrastructure problem is electricity. The deficiencies in the supply of electricity are, by far, the biggest infrastructure problem.

Finance - The next major problem in the Nigerian business sector is the high cost of funds arising from the depreciation of the local currency (Naira) against major currencies coupled with high lending rates and extreme difficulties in accessing credit for working capital, especially for small agribusiness ventures.

Unpredictable Government Actions - There is a high level of uncertainty and lack of confidence in government and its intentions for the business sector especially with the inability to predict government policy.

Farm Constraints - At the farm level, there are scattered irregular plots of subsistence smallholder production that characterize the Nigerian agricultural system.

Market Information Service - Market-oriented production requires the use of a real-time market information service.

Module 8: Market Access

Categorization of Food Processing Businesses

As an industrial business, it could be categorized into three;

Small Scale: Some food items could be processed easily like boiled groundnut, snacks etc. It doesn't require many ingredients and doesn't take much time and effort either.

Medium Scale: Food items that cannot be processed simply by stirring, frying or boiling in a big pot are considered to be medium scale. This is something the normal kitchen setting cannot handle, where the food item is not easily processed and it might need some serious machines.

Large Scale: To process food items that would be enough for export which must meet international food standards, you have to opt for large-scale production of the food item. More complicated food mixtures are usually done large scale.

Distribution and Exportation

The Asia region is the leading importer of Nigeria's agricultural commodities. The region accounted for 59% of total exports in 2018 (2017: 52.7%). Europe - 34.5% and America - 3.6% are the second and third-biggest markets for Nigeria's agricultural goods in 2018. However, both regions' share of exports in 2018 dropped from 35.9% and 6.5% respectively recorded in 2017.

In absolute terms, the export value of agricultural goods to Asia in 2018, grew by 167%, from N67.3 billion in 2017 to N179.6 billion. The growth was mainly driven by demands from Japan, India and China. Trade in agricultural goods between Nigeria and the rest of Africa is still relatively small compared to other regions of the world. Agricultural exports to other African countries declined by 6%, from N4.1 billion in 2017 to N3.9 billion in 2018.

Major Agricultural Goods Exported from Nigeria

Sesame seeds, cashew nuts, fermented cocoa beans and superior quality raw cocoa beans – with a combined total export value of N210.2 billion accounted for 69.5% of total agriculture exports in 2018.

Challenges of Agricultural Exports in Nigeria

Logistic challenges at the ports - Nigeria's two major ports, Apapa and Tin Can ports, are responsible for processing the bulk of trading activities in the country, but infrastructure and logistics challenges continue to impact export, as well as import activities.

Inadequate storage facilities and poor distribution network - Lack of adequate modern storage facilities for agricultural produce has led to significant post-harvest losses on account of produce perishability.

Poor quality of agricultural products for exports - The quality of agricultural products from Nigeria is relatively poor. This is due to poor handling of agricultural products (pre- and post-harvest period), diseases and pests attacks on crops and excessive use of pesticides for preservation purpose.

Low value-addition to agricultural products - Lack of value-addition to agricultural goods exported has resulted in a significant loss in earnings accruable to the country. According to the Food and Agriculture Organization (FAO), Nigeria's value-added per capita in agriculture has risen by less than 1% annually, over the last 2 decades.

Opportunities and Prospects of Agricultural Exports in Nigeria

The Nigerian agricultural sector is replete with diverse opportunities. Being able to effectively harness these opportunities will drive agricultural development and expand agricultural export.

For instance, analysis by the Nigerian Export Promotion Council (NEPC) shows that the total amount of estimated untapped potential by 2021 for Nigerian exports of cocoa beans to the ten best markets (Germany, Malaysia, Singapore, Turkey, Netherlands, Italy, Japan, France, Mexico and Indonesia) is around \$425 million.

In the same vein, the estimated worth of cocoa butter for the top ten markets was put at \$81.9 million, while the value for untapped potential in the market for cocoa paste by 2021 stood at \$6.3 million.

The untapped market potential for sesame seeds to the top ten markets (China, Japan, South Korea, Mexico, Poland, France, Lebanon, the United States, Canada and the UK) is estimated at US\$170 million.

According to the NEPC, the largest estimated untapped potentials for Nigeria is in China, which accounts for an estimated 65% of the total potential value. China is currently the third-largest agricultural export destination, after Turkey and Japan.

The AfCFTA, being a common market arrangement, will encourage the unhindered flow of Nigeria's agricultural goods to key markets in Africa that require it.