

Agricultural and Food Losses in Nigeria – the Way Out

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In recent times, the issue of food for the country's population has attracted the attention of all those directly connected with agricultural production. Agricultural losses are one of the greatest problems facing agricultural production in Nigeria and concerns everyone from the research scientists to the extension workers in the field to the farmers on the farm and to the government policy formulators.

This paper examines losses in agricultural produce from the field to the end users and also looks at prevailing problems associated with extraction from the field, storage and handling and government policy.

Nigerian efforts to develop agriculture and attain self-sufficiency in food production are faced with a host of problems despite the measures taken or currently being considered by various organs of government and professionals. Current forecasts predict that sub-Saharan Africa including Nigeria will need to double grain imports to 50 million tonnes by 2010 in a fiercely competitive world market.ⁱ Added to this is the fact that since 1980, the population of Africa has risen by 53% but food production has risen by only 45%. More than 800 million people in developing countries were undernourished at then beginning of the 1990s and depend on aid.ⁱⁱ

The World Food Summit in November 1996 vowed to reduce the number of undernourished people to half their present level of 800 million by 2015. This means that food production would have to grow by 4% each year for the next two decades.¹

Such a rate of growth is based on a combination of increase in cropping area, cropping intensities and yield. In Nigeria, efforts made to increase food production include the establishment of river basin authorities, agricultural development programmes, green revolution, Operation Feed the Nation, research institutes, agricultural input supplies and bulk purchase companies. However, increased food

production was not the final solution. It had to be complemented by good harvests and post-harvest practices which reduced the amount of loss. A 50% reduction in post-harvest food loss should reduce the need for food importation.ⁱⁱⁱ This paper outlines the different factors responsible for quantifiable agricultural and food losses with some recommendations for solving the problem.

CAUSES OF AGRICULTURAL AND FOOD LOSSES

Transport System

Transporting is the marketing function for moving goods. The efficient flow of agricultural produce requires a good quality system for shipping and moving goods. A country's infrastructures and transport system are often seen as key aspects of its development. In Nigeria, road and rail systems are the means for transporting agricultural produce down south and up north.

A major obstacle to agricultural development in Nigeria is the parlous state of the transport infrastructure. Despite their obvious importance, transport systems do not function as they should. The roads and rail are in a dilapidated condition and a significant proportion of investments made in road networks in 1960s and 1970s has disappeared because of lack of maintenance. The worsening condition of the roads is such that the amount of necessary repairs or reconstruction now requires levels of expenditure between three and five times as much as preventive maintenance would have cost. The World Bank estimates that the saving of one dollar on road maintenance increases the cost of operating vehicles on that route by two or three dollars.¹

On top of the dilapidated state of roads and the deterioration of rural tracks, there is another layer of concern: the ramshackle vehicles hurtling at excess speed from pothole to pothole, overloaded with human and other cargo, a frequent and sometimes fatal recipe for disaster.

The question is, "What impact does transport have on agricultural losses in Nigeria?" The poor state of roads slows down the development of supply systems and food distribution. It is common to see trucks conveying perishable produce breaking down and remaining in that state for from three days to a week without removing the produce. In cities like Jos, Kano and Lagos, piles of spoiled fruits tell the tale of the ineffectiveness of the transport system.

Storage and handling facilities

Food availability was once thought to be synonymous with crop production. For losses to be reduced, harvesting, handling and storage methods must be matched by sudden increases in crop production. The bumper harvests recorded in 1985 and 1986 with their accompanying food prices confirms the view that Nigeria's efforts to improve farm production must be matched by adequate storage, marketing and distribution.

In an effort to reduce post-harvest losses, the government constructed strategic grain reserve silos. However, the FAO has queried the decision to use metal instead of concrete bins because of their greater susceptibility to moisture migration and thus their suitability for long-term storage of grain in the humid climate of Nigeria. Moisture migration and condensation in grain stock result in spoilage and is a shortcoming of metallic silo cells. When metallic silos were used, an estimated 25 to 30% post-harvest loss was recorded for maize, 37% for sorghum and 30 to 50% for cowpeas.^{iv}

Insects and fire outbreaks are other major causes of grain loss in the traditional methods of storage with the Rhombus method recording the highest loss.

Agridem Consultant, a private organization, estimated the marketing distribution losses in 1994 for maize, rice, sorghum, millet, cowpea, groundnut, yam, cassava, plantain and fruits as 1.6%, 1.8%, 1.76%, 1.65%, 2.81%, 1.63%, 3.7%, 2.38%, 2.22% and 3.83% respectively.

In his previous works, Okigbo advocated good, efficient handling abilities to reduce the cost of perishables.^v At the present time, Nigeria is still battling with primitive ways of handling farm produce. A visit to a loading point will show a pitiable sight.

Marketing and price system

There is a need for production incentives in terms of favourable pricing linked with efficient marketing facilities, if losses are to be reduced. In Nigeria, however, incentives are generally minimal or non-existent. There is no provision for cushioning farmers against periods of sharp price fluctuations. In a field study that the authors carried out at Ado-Ekiti local government area of Ekiti State, it was found that 80% of farmers who practiced mixed-cropping abandoned their cassava tubers from July to October because the demand price was not attractive enough. Just two-thirds of the production and processed costs were recorded.

Another cause for concern is that consumers in the main importing countries such as the EU, Japan and the USA are becoming more demanding of quality and more aware of pesticide residues and bacterial contamination in crops, fish and livestock products.

Government's Agricultural Policies

It is vital to have consistent agricultural development policies and programmes in order to keep to guiding principles, strategies and tactics that are compatible with the nature of the agricultural problems to be solved and the desired objectives.^v Policies, strategies and programmes should also be compatible with and adjusted to the prevailing understanding and knowledge of the agricultural development process.

It is high time for the government to be firm in its commitment to agricultural growth. Successive governments have continually pronounced publicly that they are giving priority to agricultural and rural development, but official action has not measured up to expectations. Overall development plans, allocation, actual public expenditure, effective expenditure on productive agricultural activities and agricultural policies

and programmes have frequently been inconsistent with declared priorities.

LOSSES

In the field, there are five main kinds of loss – harvest, storage, drying, processing and handling.

There are also primary losses which are those that affect food produce directly such as biological losses from rodents, insects, birds etc. Then there are secondary losses that do not affect products directly but create favourable conditions for primary losses e.g. inadequate harvesting, packing, transportation, storage and drying facilities and bad quality control. Tertiary losses are those caused by the end users when they handle produce roughly and carelessly, causing unnecessary wastage. A visit to markets and homes will reveal this kind of loss.

OTHER PROBLEMS

1. **Famine.** There is an immediate danger of famine if agricultural losses persist. The present food level is such that urgent attention must be given to food preservation.
2. **Decline in Revenue.** Obviously, losses in agricultural produce mean a reduction in earning which will ultimately affect the government too.
3. **Shortage of raw materials.** Those industries that depend on agriculture for raw materials will face serious problems.
4. **Rising Prices.** Scarcity will lead to sharp price rises which will add to the cost of living.
5. **Threat to the nation's security.** Food shortages lead to a threat to the country's security and can sometimes even undermine the sovereignty of the country. This happened in North Korea. The USA used the famine in North Korea to make that country shelve their nuclear weapons race by dangling food aid before them while the South Korean government agreed to supply some 150,000 tonnes of rice (worth about US\$250 million) to North Korea. Policy makers in South Korea saw it as an opportunity to offer a hand of friendship to North

Korea and to move the latter away from its belligerent posture on the Korean peninsula.

THE WAY OUT

1. **General:** To address the above issues properly, a system must be implemented that brings public and private sectors together for active interaction. A cue could be taken from the Food Corporation of India, which has played a significant role in transforming the Indian food economy. It operates through a countrywide network of institutions and infrastructures at zonal, regional and district level.
2. **Application of Indigenous Technologies:** One way to reduce agricultural losses is to apply indigenous technologies including effective ways of co-ordinating research, disseminating results and demonstrations to encourage wider adoption.
3. **Price Assurance for Farm Produce:** The issue of price assurance must be addressed so that the farmer can increase production to levels that will ensure stability of supplies to meet both normal and emergency requirements.
4. **Private Sector Involvement with Favourable Incentives:** Incentive packages to compensate for the opportunity cost of capital tied down must be evolved if the private sector is to continue holding stocks. Such incentives should include fees or commissions for storing on behalf of the government and entitlements to credit at favourable interest rates
5. **Local Government Involvement:** The local government is closest to the farmer and so should be in the forefront in preventing losses by promoting the maintenance of food stocks at household and enterprise levels. Food storage at government level is a buffer to ensure price stability in the system.
6. **Focusing on Quality Issues:** To enhance demand and farm income, it is essential to focus on customers and to improve the quality of

produce. Even a slight improvement can affect the marketability of produce quite dramatically and hence reduce loss.

7. **Need for Consistency in Agricultural Policies:** Current policies in Nigeria are *ad hoc*, conflicting and inconsistent. Only good policies can ensure viable national farm factors, which will provide food for the people, raw materials for agro-industries and exports and protection for the environment. Agricultural production is complex and multi-disciplinary so a holistic, integrated approach must be adopted in shaping policies and plans, determining strategies, formulating programmes and managing their implementation. Only then can consistency and compatibility among sectors be achieved.
8. **Construction of Feeder Roads:** These must be built to convey the large amounts of farm produce now wasting away in the fields because of lack of transport facilities.
9. **Periodic Workshops for Farmers:** Institutions, the government and other organizations should arrange regular workshop training for farmers and those who operate agricultural machinery.

ⁱ Agricultural and Rural Co-operation Netherland (ARCN) 1998: bi-monthly publication of the Technical Center for Agriculture and Rural Co-operation, Netherland; No. 77 October issue

ⁱⁱ FAO (1988): Food Security Assessment, Food and Agricultural Organisation Bulletin Rome

ⁱⁱⁱ Tunde-Akintunde, T Y and Akintunde B C (1996): post harvest losses of food crops: sources and solutions, proceedings of the annual conference of the Nigerian Society of /Agricultural Engineers, Vol. 13

^{iv} Olorunda A O and Aboaba F O (1987): Food preservation by ionizing radiation in Nigeria: present and future status. Food preservation by irradiation. Vol. 5:3, Vienna.

^v Okigbo B N (1985): Need for consistency in Nigeria's agricultural development Vol. 8