



DESIGN AND FOOD SECURITY

A CASE STUDY
OF MAIZUBE
FARMERS
MARKET
—
ARDH
CONSULTANTS

Introduction

ZERO HUNGER

Number 2 on the United Nations' Sustainable Development Goals is Zero Hunger. Our conversation about design and food security is a direct response to this goal.

2 ZERO HUNGER



End hunger, achieve food security and improved nutrition and promote sustainable agriculture



SUSTAINABLE DEVELOPMENT

GOALS



Introduction

FARMERS MARKET

A market is where local farmers sell their agricultural products directly to consumers.

Source: Merriam-Webster Dictionary



Image courtesy: Iftikhar Nizami



Image courtesy: Husky Kuo

GLOBALLY

A New York Times article identified two issues affecting food production:

- **Loss** – this occurs at the front of the food chain during production
- **Waste** – this occurs at the end of the food chain at the retail and consumer levels

According to the Food and Agricultural Organisation of the United Nations, **waste** is the more troubling of these two as it accounts for 40% of food produced around the world.

IN NIGERIA



In the Policy and Strategy Document of **The Agriculture Promotion Policy (2016 – 2020)** released by the Federal Ministry of Agriculture and Rural Development; **post harvest losses** are identified as an illustrative shortcoming in the area of market access of the Agricultural Transformation Agenda.

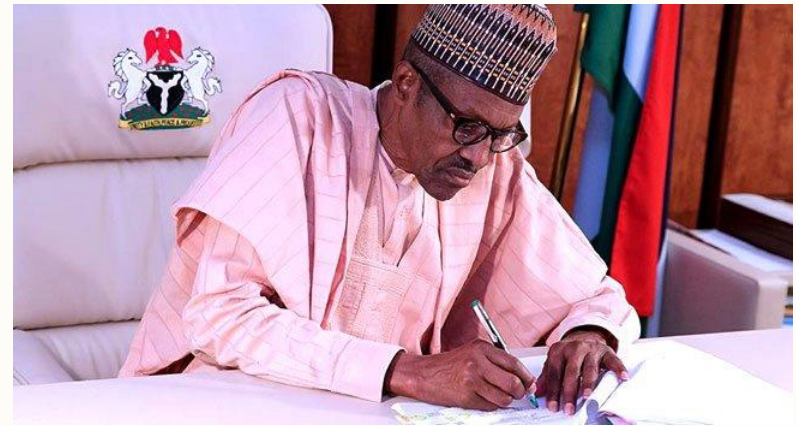


Image courtesy: Channels TV
President Muhammadu Buhari approving the constitution of membership for the National Food Security Council.

THE CONCERN

REASONS FOR WASTE

STORAGE & DISTRIBUTION

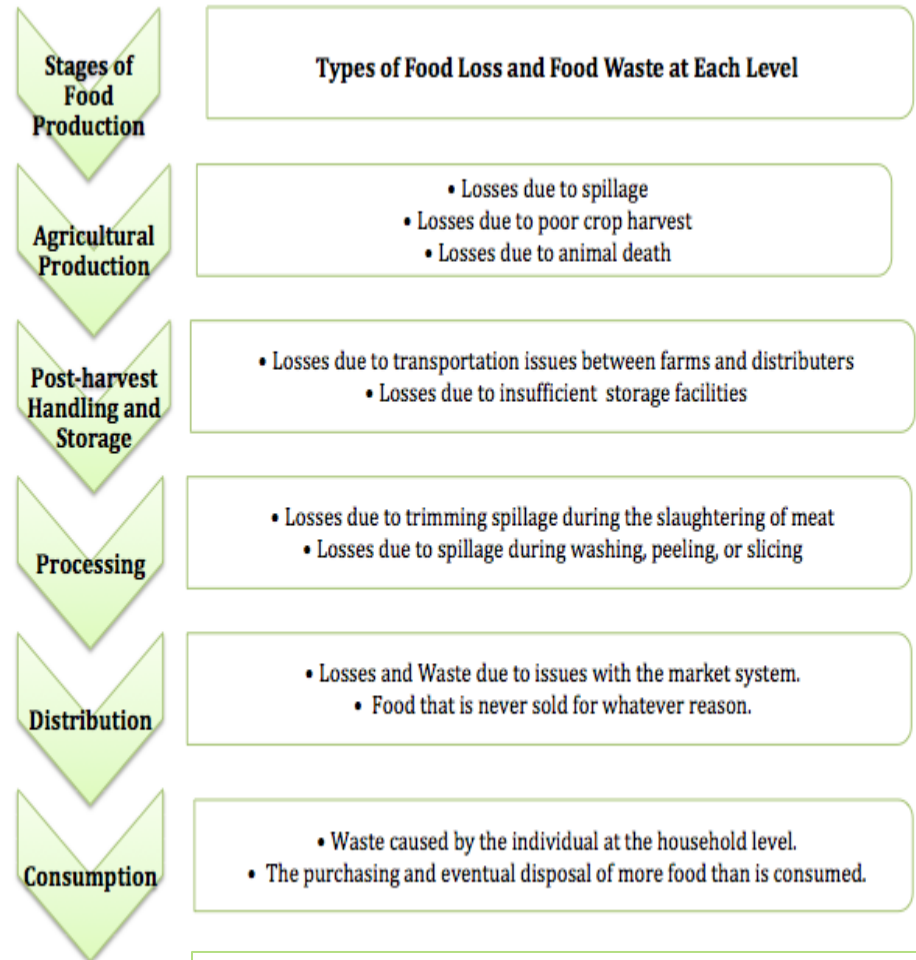
The challenges associated with the storage and distribution of farm are the most easily solved with a farmers market

NATURE AND PRINCIPAL CAUSES OF POST-HARVEST LOSSES

NATURE	DIRECT CAUSES	INDIRECT CAUSES
	Premature harvest	Inadequate:
	Poor maturation	- capital
	Poor threshing	- professionalism
In weight	Insufficient drying	- equipment
	Insufficient cleaning	- pesticides
	Bird attack	- packaging
In quality	Rodent attack	- transport
	Insect attack	- organization
	Micro-organism attack	Constraints:
	Biochemical change	-social
Economic	Leakage and waste	-economic
	Moisture content wrong	-political
	for storage	
	Inadequate storage and	
	transport techniques	

From: POST HARVEST LOSSES

By: <http://www.fao.org/docrep/t0522e/T0522E04.htm>



From: FOOD WASTE: WHO NEEDS IT ANYWAY?
By: Brooke Dahl, Christina Dellaventura, Christopher Morabito, Ashley Perry, and Courtney Sinodinos.

HISTORY & EVOLUTION

Around the world, variations on the theme of farmers markets existed before the Industrial Age. It usually formed part of a broader market where suppliers of food and other goods gathered to retail their wares as we have in our traditional Nigerian markets.

With the advent of technology, storage and transportation of farm produce changed thus giving non farming middle men a place in the distribution of farm produce.

Over time the distribution process has evolved and its flaws are becoming more apparent thus causing a paradigm shift in the perception of the relationship between the farmers and the consumers. This is the springboard upon which the farmers markets are getting a new launch.



Image courtesy: <https://www.farmersmarketla.com/history>

In July 1934, 18 vendors including 12 farmers, parked on Gilmore property and sold their goods to local housewives. Vendors paid 50 cents a day in rent. The idea was so successful that by October 1934 Farmers Market has permanent stalls and shops, restaurants and special events.

MAIZUBE FARMERS MARKET

MAIZUBE SPOT

This is the farmers market built for the express purpose of selling the products of the award winning Maizube farms. Maizube Spot and Farms are separated from each other only by the Minna-Bida Road, thus making this a highly strategic location for both ventures.

Distance from the farmers to the consumers is essentially eliminated.



MAIZUBE FARMERS MARKET

MAIZUBE SPOT ARCHITECTURAL DRAWINGS

It is a 433sqm indoor market with huge windows to maximize natural air flow and light. The spaces in the building are:

- ✓ Shopping hall
- ✓ Storage
- ✓ Manager's office
- ✓ Cashiers' office
- ✓ Restrooms



MAIZUBE FARMERS MARKET

MAIZUBE SPOT ARCHITECTURAL DRAWINGS



Isometric 3D Images of the interior



MAIZUBE FARMERS MARKET

MAIZUBE SPOT ARCHITECTURAL DRAWINGS



Top: Approach Elevation
Top Right: Rear Elevation
Bottom Right : Interior View
Bottom Left: Left Side Elevation

MAIZUBE FARMERS MARKET

MAIZUBE SPOT

Maizube spot also has open air stalls for other farmers in the community to sell their produce. This is possible because Maizube farms have a long established close working relationship with the community

- ✓ Hiring community members for unskilled labour.
- ✓ Helping the local cattle herders avoid waste by buying off their excess dairy produce.
- ✓ Providing portable water for the nearby communities.
- ✓ Providing a nomadic primary school for the community.



MAIZUBE FARMERS MARKET

MAIZUBE SPOT

Maizube Spot is part of what hopefully evolves into a thriving highway rest spot for travelers. It has all the makings of one:

- ✓ Filling station
- ✓ Restrooms
- ✓ Fast food outlets
- ✓ Mosque
- ✓ Orchard behind the mosque



THE FOLLOWING BENEFITS CAN BE EXPECTED BY USERS OF FARMERS MARKETS

Farmers

- ✓ increased profit by
 - reducing bulk purchasers,
 - eliminating most storage and distribution needs.
 - selling excess produce to canneries and other food-processors.
- ✓ simplicity,
- ✓ immediacy,
- ✓ transparency and
- ✓ independence of selling direct to consumers.

Communities

- ✓ lower transport & storage costs
- ✓ less space dedicated to food storage
- ✓ strengthened civic engagement by reducing the social distances between urban and rural communities.

Consumers

- ✓ fresher foods
- ✓ seasonal foods
- ✓ healthier foods
- ✓ a better variety of food
- ✓ Lower prices