



# RSM2SNF

Research Supporting African MSMEs  
To Provide Safe and Nutritious Food

## GUIDE FOR SAFE TOMATOES AND GREEN LEAFY VEGETABLES ALONG THE SUPPLY CHAIN

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### Introduction

All along the supply chain for tomatoes and Green Leafy Vegetables (GLVs) in Nigeria, there are increasing concern about food safety. In 2022, RSM2SNF carried out a perception study in Nigeria to understand stakeholder perceptions about the country's food systems and particularly about the subsectors of fish and vegetables. This survey found evidence of a clear preference for efforts to bring down food prices rather than improve food safety such as monitoring of food system actors and the provision of hygiene-related infrastructure.

While the focus on food affordability is not surprising in a context of high food prices and low food security, the study highlighted the need for greater sensitization around the importance of food safety and hygiene, which are pressing concerns in Nigeria (Wineman and Liverpool-Tasie, 2022). In 2022, RSM2SNF also conducted a reconnaissance (or "lay of the land") survey of the tomatoes and GLV supply chain in Nigeria<sup>1</sup>. The rapid reconnaissance revealed numerous challenges associated with

<sup>1</sup> The rapid reconnaissance was a systematic qualitative data collection from interviews with actors operating at different selected nodes of a value chains to understand their input sourcing, production and marketing strategies

food safety all along the vegetable value chain. The majority of these issues were not highlighted as concerns by the actors but noted from description of practices and observed environment of operations. Thus, this manual has been developed to serve as a reference guide for the inclusion of food safety practices and considerations in the tomato and GLV value chain in Nigeria to improve the ability of this value chain to offer Nigerian consumers safe food. It is important to note that all players in the supply chain have a role to play and must share a common goal to **ensure safe food at all segments of the chain.**



# Production



Farmers should reduce the use of pesticide during cultivation of tomato and GLV.

Farmers should seek out/request for information on appropriate quantities and timing of pesticides to be applied.

Farmers should consult/patronize registered stores for the purchase of approved pesticides to be used on the farm.

Pesticides should be used as recommended by the manufacturer on the label.

Human sewage should not be used for production of tomatoes and green leafy vegetables.

Fertilizer should be applied in a way that will not have direct contact with the vegetables.

Certified or good quality seeds for planting should be obtained from agro-allied vendors. Where possible, farmers can engage with research institutes such as the National Institute for Horticultural products (NIHORT) and the International Institute for Tropical Agriculture (IITA) for information about where to get good quality seeds.

Water for irrigation should not be from a stagnant lake, company effluent (waste water from industrial companies) or an abattoir (where animals are slaughtered).

Manure obtained directly from cattle and poultry should be dried in the sun for at least 4 days before applying it on the soil for vegetable cultivation.



# Harvesting



Dirty harvesting and packing equipment, picking containers, and packaging materials should not be used.

After each use, this equipment should be cleaned with detergent, water, and chlorine solution.

Stacking of dirty containers on top of tomatoes and green leafy vegetables should be discouraged.

Damaged picking containers, harvesting and packing equipment, and pallets should not be used.

The vegetables must be allowed to stay for at least 14 days after the application of pesticide before harvesting.

# Storage & Transportation

Containers to be used for storage should not be placed in direct contact with soil.

Do not store vegetables with foods such as meat and fish.



Always maintain a cool temperature for the vegetables by spraying with clean and safe water.

Transport vehicles should be checked before use for cleanliness, foreign objects and insect infestation, as well as cleaned.

Where wooden platforms are used during storage, they should be checked before use for possible contamination from soil, foreign objects, and insect infestation. If unsuitable, they should be rejected, cleaned, or covered with protective materials.

Vegetables should not be transported with animals in the same vehicle because they are potential sources of contamination.

It is advisable to use plastic containers in storing tomatoes during transportation.



# Market for Sales

Vegetables should not be displayed directly on the ground.

Vegetables should be displayed on a clean raised table for sale.



Always clean the table before and after each day sales.

Clean water should be use in washing vegetables before displaying for sale.



Do not display vegetables with other foods such as meat, fish, and grains.

Avoid selling your vegetables near toilet or refuse disposal.

Wash your hands immediately after using the toilet before continuing with sales.

The sales environment should be free from rodents and insects.

Do not sweep around exposed vegetables.

Add alum to the water if not from bore hole to achieve a clean and safe water for washing the vegetables.

Clean your selling environment before and after each day's sales.

