

# Landscape Analysis of Dried Tomato Production and Market in Nigeria

Postharvest Loss Alliance for Nutrition (PLAN)

Research Brief | November 2017

## BACKGROUND

Tomatoes are largely consumed because they are a rich source of vitamins A and C, folic acid as well as antioxidants (alpha-lipoic acid, lycopene, and lutein). Tomato consumption makes up approximately 18% of average daily consumption of vegetables in Nigerian homes<sup>1</sup>. Nigeria is the largest producer of tomato in Sub-Saharan Africa and the 14<sup>th</sup> globally with an estimated annual production of 1.8 million tonnes<sup>5</sup>. Tomato is a highly perishable crop that can deteriorate within a few days after harvest, losing its required quality attributes and resulting in both food and economic losses. According to FMARD<sup>4</sup>, over 45% fresh tomato produced in Nigeria are lost due to poor handling practices, inadequate cold storage and transportation facilities as well as the lack of required capacity to add value to tomato in order to extend its shelf life<sup>2,3</sup>. Postharvest losses of tomato can be drastically reduced if the fresh fruits are immediately processed into dry form and/or value is added to create new products within tomato value chain. GAIN's Postharvest Loss Alliance for Nutrition (PLAN) supports the drying of tomatoes in Nigeria because it reduces loss and can extend the shelf life of tomatoes thereby making them more accessible to consumers. PLAN commissioned a full landscape analysis to better understand dried tomato production and market in Nigeria. This brief provides the highlights from that report.

## Research Objective

Supported by the Rockefeller Foundation, this study was contracted to the Federal University of Agriculture Abeokuta (FUNAAB) by the PLAN project with the following objectives:

- i. analyze the production and marketing of dried tomato in Nigeria;
- ii. identify and describe the socio-economic characteristics of dried tomato processors, traders and consumers in Nigeria;
- iii. identify the facilities used in processing and packaging dried tomato and assess the level of awareness of processors of improved drying equipment.
- iv. examine the perception and attitude of consumers of dried tomato in terms of desirability, acceptance, quality and taste as compared to fresh tomato.

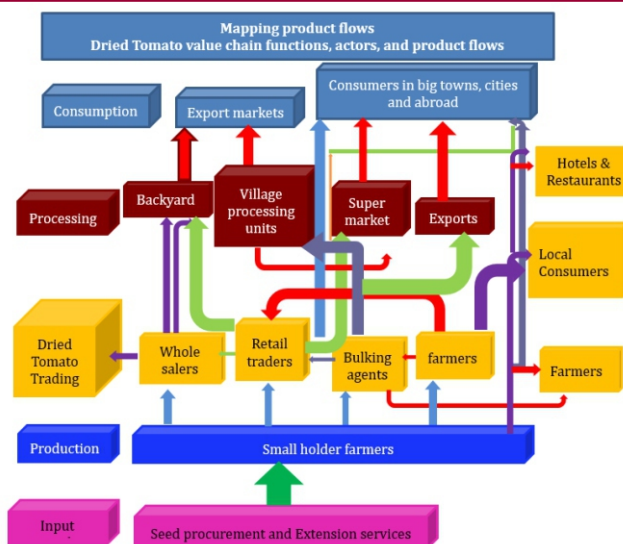


Figure 2: Dried tomato value chain functions, actors and product flows

## Methodology

- Twelve (12) states were purposively selected from the six geo-political zones of Nigeria, including: Kano and Kaduna in Northwest zone, Bauchi and Jigawa in the Northeast zone, Abuja and Nassarawa in the North central zone, Lagos and Ogun in the Southwest zone, Imo and Abia in the Southeast zone, and Edo and Delta States in South South zone.
- Structured pre-tested questionnaires were used to elicit information on socio-economic characteristics of selected processors, traders and consumers and other study objectives.



## KEY FINDINGS

- Main value chain actors include middle age, married and/or single men and women who are not-formally educated (processors and marketers). Hence, dried tomato actors would benefit greatly from capacity building opportunities in production, improved processing methods and marketing of dried tomato.
- Sun drying is the most widely used drying technique in Nigeria in which tomatoes are laid out on the ground for sun exposure until the processor determines the drying process is complete (see figure 1). Sun dried sliced tomato dominates the market in Nigeria. Nigeria's traditional sun drying method is highly susceptible to contamination and without strictly observed standards, dried tomatoes have become a food safety issue.
- Nylon was the major packaging material for the dried tomato product because it is relatively affordable and could be used to package small quantities with a predicted storage period of 6 months' shelf life.
- The study identified a widespread network of the processors and traders (mostly in Situ in the North) and consumers of dried tomato in all the selected zones (see figures 3). Dried tomatoes are transported from the North where they are produced in large volumes (with Bauchi being the largest producer) to all corners of Nigeria (see figure 3).
- The study revealed that the sale and consumption of dried tomatoes were not significantly affected by season and that dried tomatoes are available year-around across the six geo-political zones of Nigeria. The national and regional market is robust, yet remains informal and largely unregulated.

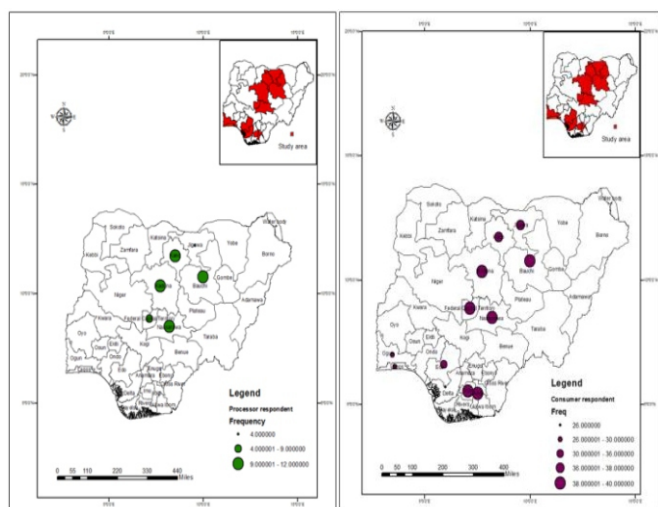


Figure 3: Spatial distribution of dried tomato processors (left) and consumers (right) in Nigeria

### Challenges in Nigeria's Dried Tomato Value Chain

- i. The quality of dried tomatoes remains low with little to no product quality control thereby increasing food safety issues and limiting access to more formal markets.
- ii. Value chain actors have inadequate access to accurate market information and are yet to organize themselves which would foster mutual standardization and improve market opportunities.
- iii. Processors lack the capacity and access to improved, low-cost drying technologies and techniques.
- iv. Dried tomato value chain actors currently do not have connections to other important stakeholders such as agricultural researchers, microfinance institutions, quality standards organizations, the equipment fabricators, etc.) for up-scaling the processing, packaging and marketing of dried tomatoes.

## FOUR MAIN AREAS OF INTERVENTION

1. Provision of adequate policy and infrastructure to support dried tomato industrial development, including improving access to new drying technology.
2. Improvement on the quality, shelf life, storage, packaging and safety of dried tomato with approved standards and specifications by government regulators.
3. Development, promotion and dissemination of improved processing as well as utilization techniques that will retain natural color of the dried tomato product for more consumer acceptability.
4. Development of the domestic and regional markets in the short run and the global market in the medium and long run for Nigerian dried tomato.
5. There is a need to provide capacity training for tomato processors on the use of new and improved drying and packaging technology that meets the regional and international standards in content, context, packaging and standardization.

<sup>1</sup>Babalola, D.A.; et al (2010) Acta SATECH, 3,14-18. <sup>2</sup>Idah PA, et al (2007). Fruits and Vegetables Handling and transportation in Nigeria. AUJ.T. 10,175-183. <sup>3</sup>Sugri, S.A., et al (2011). American Journal of Experimental Agriculture 3(2), 392- 402. <sup>4</sup>FMARD. 2014. <sup>5</sup>Ugonna, C. U., Jolaoso, M. A., (2015). Tomato value chain in Nigeria: issues, challenges and strategies. Journal of Scientific Research and Reports 7(7): 501-515.

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To continue the conversation, join the [PLAN Facebook Group](https://www.facebook.com/groups/PLANnetwork/) <https://www.facebook.com/groups/PLANnetwork/> the dedicated forum for PLAN members to discuss topics relevant to reducing postharvest losses in their operations.