

# FOOD SAFETY IN BREAD DISTRIBUTION

## Food Safety in Bread at a Glance:

- Public bread production is a system of subsidized bread production that is distributed at low price throughout NES.
- Bread production involves the safe handling and transportation of grain to flour mills, flour to bakeries, and distribution of cooked loaves.
- Mills and bakeries can follow four general controls for food safety that includes: personal hygiene of staff; cleaning tools and equipment; equipment maintenance; and good storage practices.
- Bread distribution is a critical point for freshly-baked loaves.
- Bread should be transported in covered containers or in bags. It should not be exposed to dust and exhaust.
- Distribution agents must practice personal hygiene and safe distancing with customers.
- Bread should not be stacked too high to avoid compression of warm loaves.
- Transport vehicles must be kept clean and free from dust, dirt or other contaminants.

## SUBSIDIZED BREAD DISTRIBUTION IN NORTHEAST SYRIA

Ensuring that food is safe and healthy for consumption is a worldwide global concern that impacts food security, national economies, nutrition and health. Food safety processes ensure that food is handled, prepared, stored, and distributed in a way that best reduces the risk of developing foodborne diseases to individuals. Food safety, nutrition and food security are closely linked. Unsafe food causes a vicious cycle of disease and malnutrition, particularly affecting infants, young children, the elderly and the sick.<sup>1</sup> People in NES have a challenging life, with high prices stemming from the devaluation of the Syrian pound (SYP), economic and job losses from the COVID-19 pandemic and very low incomes. As a whole, Syria is near the bottom of the global ranking of GDP per capita, and a family needs to spend at least one third of its income on food. For many in NES, displacement, conflict and the economy means they cannot cover basic family needs.

NES Local Authority maintains the public bread production and distribution system to provide for NES food security with subsidized bread available to the general public. Wheat is purchased through a system of public reception centers that buy and store grain from farmers at competitive prices. Grain is then distributed to public flour mills and flour is sold to public sector bakeries at a subsidized price (currently 60,000 SYP/ton). Bakeries produce 'public' bread that is either sold at their premises or distributed to communities and neighborhoods, currently at 125 SYP per 2.4 kg bundle.<sup>2</sup> Maintaining food safety standards through the wheat to bread production and distribution channel is a crucial food security issue.

## FOOD SAFETY IN MILLS AND BAKERIES

Food safety and hygiene are an essential component in any food processing and food industry. Since public bread is consumed by most people in NES, it is important that bread quality and food safety issues are controlled throughout the process. This means that good hygiene and food safety practices must be adhered to through grain harvest and storage, milling into flour, baking and distribution of finished loaves. Mills and bakeries have equipment that is difficult to clean and raw ingredients that can easily be contaminated if not handled properly.

### Food Hygiene principles Mills and bakeries:

Mills and bakeries produce bread that is the staple in NES diet. Handling wheat, grinding it to flour and baking bread can be a major source of food contamination. There are good general principles for food safety in production processes:

- Maintain clean equipment
- Personal hygiene of workers
- Clean facilities and proper sanitation
- High quality flour and clean storage bags
- Quality ingredients (yeast/salt)

<sup>1</sup> WHO. 2020. Food Safety Fact Sheet. World Health Organization. Geneva, Switzerland. [Food safety \(who.int\)](https://www.who.int/food-safety)

<sup>2</sup> I-APS. 2021. Wheat value chain study Phase 2. Syrian Livelihoods Support Project. Draft publication



Bread Distribution in Deir-ez-Zor  
(Photo Credit: I-APS)



## BASIC FOOD SAFETY PROCESSES FOR MILLS AND BAKERIES

Mill and bakery workers must adhere to the highest standards of food safety (flour and bread), the most important of which are:

**Personal hygiene:** Personal hygiene is a best practice for the safety of flour and bread production. Mill and bakery staff must be trained and must adhere to high standards of personal hygiene. This can make a big difference in terms of the safety of bread when maintaining flour and other ingredients free of bacteria or pathogens. Managers and/or owners of the mills and bakeries should establish strict rules and guidelines, consistent with health standards of the Local Authority, that each employee must follow. Some of these include:

- *Keep and wear clean clothes*
- *Cover the hair throughout the working day*
- *Gloves should always be worn when grinding or working in the oven*
- *Wash and disinfect hands frequently*
- *Wear a mask and maintain safe distances from workstations, consistent with work standards in response to the coronavirus pandemic.*<sup>3</sup>

**Clean tools and equipment:** One of the main risks to food safety (flour and bread) is the use of dirty equipment and improper cleaning.

These errors lead to points of contamination in the production line that lead to contamination of flour and/or bread. For example, it is important to clean residues from previous activities such as kneading or other operations. Time must be allocated during busy work days to ensure a clean, dust-free environment.

**Equipment maintenance:** Equipment maintenance and operations are particularly challenging in NES given aging equipment, poor fuel quality and frequent breakdowns. Poor equipment efficiency and breakdowns are costly, but may also lead to contaminants in the flour and difficulty in cleaning equipment properly. Therefore, all staff must understand basic equipment maintenance and the bakery or mill needs access to qualified mechanics and operators.

**Storage:** One of the most important aspects of food safety is the proper storage of flour, dough and bread at the right temperature and humidity. Flour quality is affected by temperature and humidity, so storage facilities should be checked regularly.<sup>4</sup>

To maintain the safety of flour and bread in high quality, the Committee of Mills and Bakeries must take its role in monitoring and following up all the steps of the process (2) the participation of the community in the mechanisms necessary to provide negative and positive reactions through complaints and follow-up by the competent authorities and committees.

## FOOD SAFETY AND BREAD DISTRIBUTION

Fresh-baked bread is distributed throughout NES on a daily basis. Bakeries receive flour allocations and bake all the bread they can, and distribution agents are responsible to transfer bread from the bakery to their neighborhoods where it is sold at fixed prices. Distribution agents may be independent, may be an employee of the Local Authority, or an employee of the bakery. Regardless, the process of transferring bread from the bakery to the delivery vehicle, travel to the distribution location, off-loading the vehicle and making the sales are all points at which contamination can be introduced. The following principles should be adhered to:

- *The vehicle in which bread is transferred should be kept clean and bread kept in a covered compartment;*
- *Bread should be transferred in covered bread baskets or in plastic bags. Bread should not be subjected to open air transport and exposure to dust and exhaust*
- *Bread should not be stacked too high so that it compresses in tight stacks, especially if bread is warm.*
- *Staff transporting the bread should pay attention to personal hygiene and clothing, using masks and disinfectant on hands.*

- *Distribution agents and customers should practice social distancing during sales*

Bread distribution is a crucial element of food security in NES. It can be managed safely and a good quality product distributed by employing basic food safety rules and ensuring they are followed.



Pick-up truck with bread in Al-Haskeh  
(Photo Credit: i-APS)

<sup>4</sup> Marden, P., J. Forrester, B. Swayne, and A.M. McNamara. 2018. [Handling Food Safety Risks in a Retail Bakery in Food Safety Magazine, June/July 2018, Handling Food Safety Risks in a Retail Bakery - Food Safety Magazine](#)

<sup>3</sup> WHO. 2006. Five Keys to Safer Food Manual. World Health Organization, Department of Food Safety, Zoonoses and FoodBorne Diseases. Geneva, Switzerland [Five keys to safer food manual \(who.int\)](#)