

### Mali Food Security Policy Research Program

#### The Scope and Scale of Processed Food Retailing in Urban Mali

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#### Motivation

The increasingly urbanized Malian population combined with the growth in disposable income are bringing major changes in lifestyle and diet. There is an unprecedented demand for diversified and easy-to-prepare foods. In the region, urban consumers are shifting away from traditional staples (i.e., roots and tubers) and towards processed rice and wheat-based products (i.e., noodles, pasta, and bread) (Hollinger and Staatz 2015). Income increases are also associated with growth in foods with high-income elasticities of demand, such as meat, dairy products, and fruits and vegetables (Zhou and Staatz 2016).

These changes have important implications not only in terms of health and nutrition but also in terms of employment opportunities, notably in the processing and retailing segments of the agri-food system. Yet, little is known about these ongoing transformations in Mali, or even in the West African region. In 2016, we conducted a city-retail outlet inventory of processed dairy and grain products in four major Malian cities in order to examine the scope and scale of processed food retailing.

#### Key Findings

- Small number of different product types highlighting the high repetition across retail outlets.
- Supermarkets have a wider selection of processed grain and dairy products.
- Availability of processed foods differ across cities/neighborhoods/outlets.
- Limited geographical distribution of locally processed foods.
- Retailing of processed dairy and grain products is at an early stage.

#### Processed Foods

The retailing of processed foods is an important indicator of agri-food system transformations, since it is one of the first food categories to be adopted by modern retailers and widely demanded by urban consumers. Compared to fresh foods, processed foods are low-risk for retailers due to their low perishability and highly valued by consumers for their shelf-life, consistent quality, and easiness to consume.



A processed food product is defined as “a retail item derived from a covered commodity that has undergone specific processing resulting in a change in the character of the covered commodity, or that has been combined with at least one other covered commodity or other substantive food component” (USDA 2017; 7 CFR § 65.220). Cooking, chopping, pasteurizing, fermentation, curing, smoking, drying, milling, and packaging are example of processing activities that are changing the character of the commodity.

## Data and Methods

The inventory focused on processed food products within the grain and dairy categories, since cereal grains remain the principal component of the Malian diet and demand for dairy products is growing fast.

The inventory took place across a range of retail outlets and neighborhoods in Mali’s four largest cities: Bamako, Sikasso, Kayes, and Segou. Each city was stratified into communes and each commune into neighborhoods, and each neighborhood was classified as low, medium, or high income. Then, we randomly selected one neighborhood per income level for each commune and city. A total of 100 retail outlets were visited across 25 neighborhoods in those four major cities.

Retail outlets included grocery stores (alimentations), traditional shops (boutiques), neighborhood markets (marchés de quartiers), central markets (marchés centraux), and modern supermarkets. There exist few supermarkets in Mali and all of them are independent (non-chain) and located in Bamako. [See Theriault et al. (2017) for a detailed description of the data sampling and strategy.]

## Scope and Scale of Processed Food Retailing

Diversity-Approximately 4,000 processed dairy and cereal food items, including repetitive items, were inventoried across 100 retail outlets in Mali. Not taking into account product size, grade, brand, and manufacturing firm, we count 15 and 36 different types

of processed dairy and cereal products. The relatively limited number of different grain and dairy product types highlights the high repetition of products across retail outlets. For example, pasta and cookies together are the most frequently inventoried grain product types, accounting for over 20% of observations in this category. Powdered milk is the most frequently inventoried dairy product types, making up about 20% of inventoried dairy products.

The range of product types also indicates the coexistence of modernity with tradition. Traditional dairy products, such as fermented milk, sirime and fene exist alongside modern ones, such as yogurt and powdered milk. Likewise, both traditional (e.g., monikourou, bachi djalan) and modern (e.g., cookies, breakfast and infant cereals) grain products are inventoried. However, traditional grain and dairy products account for very few of the observations. On one hand, this may suggest that modern foods are increasingly replacing traditional foods, as it has been observed in neighboring countries. On the other hand, it may suggest that traditional processed foods are still at an early stage of penetration into the retailing segment.

Availability- The number of different processed grain and dairy products available to consumers vary widely across cities, neighborhoods, and retail outlets. There are 2 times more processed dairy and grain products in Bamako than in Kayes and Sikasso and 1.5 times more than in Segou. For instance, maize-based products, such as maize flour and cornmeal and most cheese, butter, and ice cream products are only available in Bamako.

The range of products differ by neighborhood income-levels. Several staple grains, imported wheat products (e.g. pasta and couscous), and non-perishable dairy products (e.g., powdered and evaporated milk) are widely available across all neighborhood types. In contrast, some dairy products and “quick-preparation” grains are less available in low income neighborhoods compared to higher income neighborhoods. The limited access may restrain consumers, from low income neighborhoods, to consume dairy products.

The availability of processed grain and dairy products not only differs across cities and neighborhoods but also across retail outlets. For example, supermarkets and grocery stores (alimentations) do not carry sorghum-based products, such as flour and semolina, which are largely found in central and neighborhood markets. However, supermarkets are the only ones to sell hard chesses and some flavored yogurts and milk.

Distribution of local processed foods- About one-quarter of all inventoried products are manufactured locally- in Mali. Some locally processed dairy and grain products have been minimally processed while others have been heavily processed. More processing is occurring on foods that can be locally sourced (e.g., sorghum, millet, and fonio). This has important implications for employment in the agri-food sector. Further developing the processing segment of sorghum, millet, and fonio products and, to some extent of processed maize and rice products, could contribute to increase demand for raw agricultural commodities through local purchases and, thereby, generating employment opportunities on and off-farm.

As seen in Figures 1 and 2, there are 80 and 27 Malian manufacturing firms distributing processed grain and dairy products in the four major cities. Fewer than 30% of these grain and dairy firms have a presence in more than one city, and only two grain processors and one dairy processor operating in Mali have a presence in all four cities. For those distributing to one city only, approximately two thirds are confined to Bamako. This indicates that the bulk of domestic processing takes place in the capital.

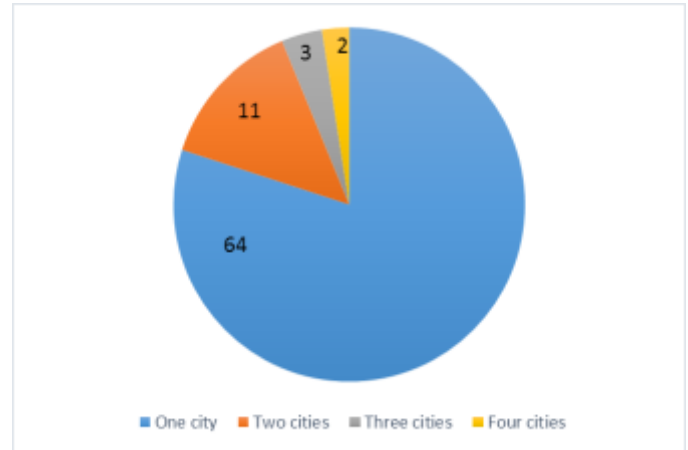


Figure 1. Number of Malian manufacturing firms distributing processed grain products in one or more cities.

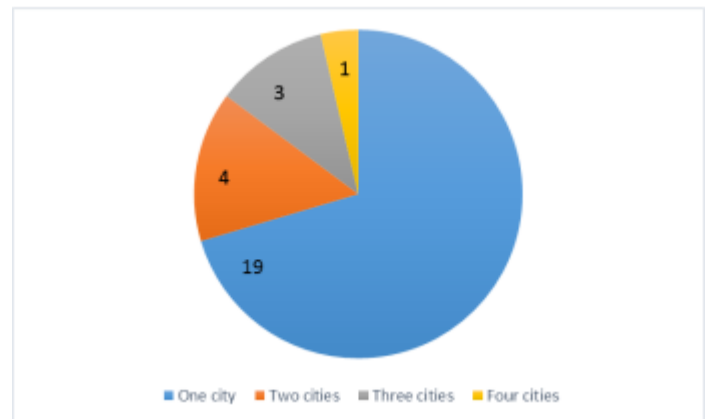


Figure 2. Number of Malian manufacturing firms distributing processed dairy products in one or more cities.

### Policy Implications

Taken together, our findings suggest that the transformation in the processed and retailing segments of the Malian agri-food system is still at an early stage. The expected benefit of greater selection of processed products for the mass market from the expansion of modern retailing has not fully taken off. Yet, the Malian agri-food system is somewhat vibrant, specifically in manufacturing processed food items made out of locally available raw agricultural materials. The continued growth of the processing and retailing segments over the next few years create economic

opportunities for Malian grain and dairy value chain stakeholders. There is room for the Malian processing segment to be further developed, especially for products that can be locally sourced. Especially if they can deliver quality products at competitive prices. The ability of the local food processing segment to compete in modern retailing will depend on the country's ability to understand the ongoing changes and overcoming market barriers, including poor infrastructure and policy constraints.

## References

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