

Stages of Transformation in Food Processing and Marketing: Results of an Initial Inventory of Processed Food Products in Dar es Salaam, Arusha, and Mwanza

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Summary

1. Nearly 950 processed food products across five product categories (maize and other flour products, packaged rice, dairy, fruit juices, and poultry) were identified in Dar es Salaam, Arusha, and Mwanza retail outlets.
2. Tanzanian firms dominate maize, blended, and other flour product availability in all three cities – there has been a rapid proliferation of micro-firms competing on price, and the rise of small to medium size firms investing in quality differentiation and marketing.
3. Tanzanian firms have a respectable presence in the market for dairy, juice, and packaged rice products, but are generally overshadowed by imports. However regional firms (Tanzania, Kenya, Uganda, and Somalia) are competitive with international firms in the Tanzanian market.
4. Retail transformation has occurred most dramatically in Dar es Salaam, boasting up to a dozen supermarket chains and hundreds of small format supermarkets, with new outlets opening constantly.
5. Food processing transformation has occurred most dramatically in Arusha, which has numerous medium sized companies with market presence in other cities, and greater quality differentiation (as measured by the complexity of packaging).
6. Additional research will be done to better understand the dynamics of food system transformation in Tanzania and to inform the design of programs and policies that augment local firm competitiveness, economic development, food security, and employment opportunities.

INTRODUCTION: Tanzania Policy Research Brief #2 (PRB#2) presented the results of multiple key informant interviews and an inventory of selected processed food products in Dar es Salaam, including maize flour products (excluding wheat), blended and other flour products, packaged rice, selected dairy, fruit juices, and poultry. The key findings were (1) the structure of food retail is changing rapidly, with many small- and large format supermarkets moving in, and (2) local and regional food manufacturing appears to be very competitive with imports from outside the region, and are characterized by (a) the rise of a few successful medium and large size firms producing highly processed products, and (b) a surge of many micro and small firms producing branded but largely undifferentiated maize meal, and somewhat more differentiated blended and other meals.

These results were discussed in the context of key trends identified in previous research by the Food Security Innovation Lab (FSP): (1) the rise in consumption of processed food in East and Southern Africa has been deep, accounting for nearly 70% of purchased food, and broad, showing similar shares among rural vs urban households and among low vs high income consumers; (2) the penetration of processed foods has, however, been differentiated between processed products with low value added and those with high value added: rural and low income households tend towards the former, while urban and higher income households tend towards the latter; (3) the highest expenditure elasticities are for highly processed and perishable foods; and (4) demand for processed food items is projected to grow an average of 7% to 8% per year over the next 30 years.

This Policy Research Brief extends the analysis from PRB#2 to evaluate food system change beyond Dar es Salaam, the primary “mega-city”. We address this question: how do these changes vary by city, and does this map to different stages of food system transformation?

To address this question, this brief compares observations and inventory results across three cities: Dar es Salaam, Arusha, and Mwanza. Dar es Salaam is a coastal mega-city, one of the fastest growing in East Africa, with a population of approximately 4.5 million. Arusha and Mwanza are much smaller cities, each with fewer than one million inhabitants¹. While both have an overall lower income per capita than Dar es Salaam², Arusha is a tourist destination with a sizable middle class³ and, as we will show below, a well-established food processing industry. Mwanza is the most interior of the cities and likely the least exposed to outside influences; we would expect it to be at the earliest stage of food system transformation.

The report proceeds as follows. First we describe the data collection process. We then compare results across the three cities, as they pertain to (1) the structure of retail, (2) the role of local and regional firms and products relative to imports, (3) and specifically for maize and blended/other flour products, firm concentration, branding, packaging, and consumer purchase behavior. We conclude by outlining an agenda for future research.

DATA AND RESEARCH METHODS: In each city, the research team conducted a one week rapid appraisal including key informant interviews. Product inventory data from food retail outlets were then collected in approximately week-long intervals over the course of spring 2015 in the three largest cities of Tanzania: Dar es Salaam, Arusha, and Mwanza. All food retail outlet types - including large format chain supermarkets, small format supermarkets, traditional shops, and stalls located in traditional markets - were visited until it became rare to find new products⁴. The inventory covered maize flour, blended flour⁵, and other flour products (excluding wheat

but including millet, soy, banana, and others), packaged rice, selected dairy products (excluding cheese, whipped cream, and butter, which are all almost exclusively imported), fruit juices, and processed poultry. The information collected included the name of the company and/or brand, product type, product name, packaging type, the list of ingredients, manufacturing country and city, and contact information. Volume and price information were not collected in this inventory; they will be in the food retail survey that will be conducted prior to the end of 2015.

RESULTS:

Structure of Food Retail: The “supermarket revolution” that occurred in Latin America, Asia, and South Africa in the 1990s and 2000s (Reardon et al., 2003) has arrived in Dar es Salaam. In the early 2000s the city had very few large supermarkets or chains. Today there are at least 30 large format outlets across at least 12 supermarket chains, with at least two new chains arriving in 2015 alone. At least three regional chains (Nakumatt, Uchumi, and Food Lovers) and one global chain (Game, owned by Walmart) operate in the city. Furthermore, there are (1) hundreds of small format mini-supermarkets widely dispersed across the city (differentiated from traditional self-service shops), many of which appear to have opened only in the last few years, and (2) a growing number of new retail formats adapted for consumer convenience, including gas station convenience stores and clustered food shops with dedicated parking (“new format retail clusters”).

This transformation is still just taking root in secondary cities, most notably via the rapid increase in small format supermarkets. The growth of large format supermarkets is still limited outside Dar es Salaam. In Arusha there are now three medium-large format supermarket chains, and in Mwanza there is one large format independent supermarket and one supermarket chain. In both cities there is little evidence of the new retail formats that are becoming so prevalent in Dar es Salaam.

¹ Per citypopulation.de, which uses data from Tanzania’s National Bureau of Statistics.

² This is based on our own calculations from the 2011/2012 Tanzanian Household Budget Survey data.

³ We base this on discussions with local collaborators.

⁴ The exception is maize flour, blended flour, and other flour brands which are highly localized and couldn’t be exhaustively covered within our time constraints.

⁵ These are often referred to as “lishe” products, and are usually marketed as health food and ideal for infants.

Table 1. Location of Manufacturing and Retail – All Products

Location of Manufacture	Total number of companies represented in:			Total number of products being sold in:		
	Dar es Salaam			Dar es Salaam		
	Salaam	Arusha	Mwanza	Salaam	Arusha	Mwanza
Tanzania	149	83	62	290	174	100
Neighboring	14	18	3	50	53	10
International	65	41	17	138	84	34
Total number	228	142	82	478	311	144
Percent local	65%	58%	76%	61%	56%	69%
Percent regional imports	6%	13%	4%	10%	17%	7%
Percent international imports	29%	29%	21%	29%	27%	24%
Percent total imports	35%	42%	24%	39%	44%	31%

Role of imports vs. local products: While we might expect more imports in the primary (and coastal) megacity than in the secondary (interior) cities, our observations present a mixed picture (Table 1). On the one hand, Dar es Salaam shows a smaller share of imported products than Arusha, at 39% and 44%, respectively. Yet total regional representation (local plus imports from Kenya, Uganda, and Ethiopia) of companies and products is about the same (71% of products found in Dar es Salaam are from Tanzania or the region, compared to 73% for Arusha). Note that Arusha has a higher share of imports from neighboring countries. Mwanza on the other hand has the lowest share of imports compared to the other cities (69%/76% of products are local/regional and 76%/79% of companies represented are local/regional), which is what we would expect based on its size and interior location.

This pattern varies significantly by the type of product (Table 2). Three points stand out for the milled grains market. First, in all three cities, this group is dominated by Tanzanian products and firms. Moreover, in all but one case, Dar es Salaam is the only city where products from outside the region are available.

Second, these products tend to be highly localized within Tanzania: of 63 Tanzanian companies (92 products) selling maize meal in Dar es Salaam, 61 (90) manufacture in that city. The figures for Arusha are 13 of 16 companies and 16 of 20 products, and for Mwanza are 19 of 22 companies and 20 of 23 products. Blended and other flour products are nearly as localized: 38 of 43 Tanzanian companies in Dar es Salaam (61 of 75 products) also manufacture there. Products in Arusha are somewhat less localized: only 24 of

32 of the represented Tanzanian companies (42 of 61 products) manufacture in that city.

Third, table 3 shows that despite this high level of localization, there are 10 emergent “semi-national” companies that are represented in two of the three cities (5 are from Arusha and 5 are from Dar es Salaam), and 2 “national” companies that are represented in all three (both from Arusha). Again, Arusha stands out for having companies with national reach.

For packaged rice, Table 4 shows that the prevalence of imports depends on the city. Tanzanian companies and products are dominant in Arusha, roughly equal to imports in Dar es Salaam, and dwarfed by imports in Mwanza. However, while local products are dominant in Arusha, the majority of semi-national companies are from Dar es Salaam – five in Dar es Salaam and only one in Arusha (Table 3). In all cities, packaged rice is found almost exclusively in supermarkets, and is targeted to middle and upper income consumers.

For juice and selected dairy products, Table 4 shows that imports are largely dominant over Tanzanian companies and products (with the exception of dairy products in Mwanza). However, two interesting distinctions can be made. First, the local share of dairy *products* is higher than the local share of dairy *companies*. This suggests that Tanzanian companies, on average, sell more products than foreign companies. For example, in Dar es Salaam, only 19% of the identified dairy companies are based in Tanzania, but 35% of the products are manufactured in the country.

Table 2. Locations of Manufacturing and Retailing – Milled Grains

Product Group	Location of Manufacture	Total number of companies selling in:			Total number of products being sold in:		
		Dar es Salaam	Arusha	Mwanza	Dar es Salaam	Arusha	Mwanza
Maize Flour	Dar es Salaam	61	3	--	90	4	--
	Arusha	2	13	1	2	16	1
	Mwanza	--	--	19	--	--	20
	Other Tanzania	--	--	2	--	--	2
	Neighboring International	1	2	--	1	2	--
		9	--	--	10	--	--
Blended and other Flours	Dar es Salaam	38	4	--	61	8	--
	Arusha	3	24	7	10	42	9
	Mwanza	--	--	21	--	--	25
	Other Tanzania	2	4	2	4	4	2
	Neighboring International	1	--	--	1	--	--
		7	1	--	7	1	--

Table 3. Companies Represented in Two or Three Cities – by Product Type and Manufacturing City

Product Type	Manufacturing City	Companies found in two cities	Companies found in all three cities
Maize, Blended, and Other Flours	Dar es Salaam	Afri Tea and Coffee Blenders, Bakhresa Food Products, Mas-Q Associates Ltd, Ndula Products, Power Foods	---
	Arusha	Joshua Products, Jamahedo Health Food Co, MED Food Products, Rest Food Production, Red Gold	Afri Youth Pride, Nyirefami Ltd
Packaged Rice	Dar es Salaam	AGBAL General Suppliers, AKTZ Industries Ltd, Frabho Enterprises, Namala Food & Co Ltd, Ndula Products	---
	Arusha	SDS Ltd	
Dairy	Dar es Salaam	MilkCOM Dairies Ltd	Bakhresa Food Products
	Arusha	I.D.P (T) Ltd	
	Other Cities	Kilimanjaro Creameries Ltd, Mara milk	ASAS Dairies, Tanga Fresh
Juice	Dar es Salaam		Bakhresa Food Products
Poultry	Dar es Salaam	Interchick	
	Arusha	Kiliagro and Livestock Products Ltd	
	Mwanza	Interchick	

Table 4. Location of Manufacturing and Retail – Packaged Rice, Selected Dairy, Juices, and Poultry

Product Group	Location of Manufacture	Total number of companies selling in:				Total number of products being sold in:		
		Dar es Salaam	Arusha	Mwanza	All three cities	Dar es Salaam	Arusha	Mwanza
Packaged Rice	Dar es Salaam	17	6	1	--	21	6	1
	Arusha	2	9	--	--	3	13	--
	Mwanza	--	--	1	--	--	--	1
	Other Tanzania	1	3	--	--	2	3	--
	International	18	8	8	2	28	12	11
Selected Dairy	Dar es Salaam	5	1	2	1	23	17	15
	Arusha	1	7	--	--	5	13	--
	Iringa	1	1	1	1	11	11	5
	Tanga	1	1	1	1	3	3	2
	Neighboring	7	6	2	2	23	21	8
	International	28	15	7	1	54	27	12
Juices	Dar es Salaam	3	1	2	1	10	10	7
	Arusha	--	3	--	--	--	4	--
	Other Tanzania	2	--	--	--	2	--	--
	Neighboring	6	11	1	--	25	30	2
	International	11	17	2	1	39	45	12
Poultry	Dar es Salaam	4	1	--	--	10	1	--
	Arusha	1	5	1	--	1	13	1
	Mwanza	1	1	1	--	3	2	4
	Other Tanzania	1	--	--	--	1	--	--

Second, imports from outside the region largely do not dominate local plus regional (Tanzania, Kenya, Uganda, and Somalia) companies and products.

Finally, due to the import ban, all poultry products are produced in Tanzania, most often in the city where they are sold. Companies selling in multiple cities include Kuko Poa, Interchick, and Kilagro Livestock investments (Table 3). Processed poultry products are almost exclusively found in supermarkets or modern butcher shops, targeting middle and upper income consumers. In municipal (traditional) markets, it is common for customers and restaurants to purchase live chickens or to order them and have the shopkeepers slaughter/process them and deliver them in plastic bags.

Firm Concentration and branding: Evidence from many developing countries suggests that the evolution of firm concentration in an industry follows a J-curve, with time

on the horizontal axis and industry concentration on the vertical axis. As the economy is liberalized, former parastatals are broken up and there is a proliferation of small firms vying for market share. Over time many of these firms merge, fall out, or get absorbed by larger firms (Reardon, 2015). Previous literature suggests that Africa has yet to enter this consolidation phase of the J-curve, and is characterized by a few “elephants” (large but slow-growing firms that provide little employment growth), many “mice” (micro and small firms with rapid “churning”, entering and exiting the industry and hence not contributing greatly to net growth), and few “gazelles” (small firms experiencing rapid growth and becoming medium size) (Li and Rama, 2015).

We suggest that the Tanzanian maize, blended, and other flour processing industry is still largely in the firm proliferation phase (with one “elephant” and many “mice”), but that consolidation is starting in Dar es Salaam

and Arusha (but not yet in Mwanza). We suggest this based on the following observations. First, on the one hand, there has been a surge in new micro-firms (for maize flour products in particular) in the last few years in all three cities, and especially in Dar es Salaam. They are characterized by three main traits: (1) they are highly localized, nearly always selling in the same city and often in the same neighborhood where they are manufactured, (2) they are largely undifferentiated in terms of quality and the type of product, and in some cases are produced by the same milling equipment – mill owners produce their own brand and also rent out milling capacity to other brand owners (traders and shop-owners), and (3) in the case of maize flour specifically, almost all are branded and packaged in the same type of basic packaging (polypropylene sacks). It appears that these firms are in direct competition with Bakhresa (Azam), a very large, integrated firm that may be losing market share for maize flour⁶ and is not even competing in the burgeoning blended flour market.

Second, on the other hand, there are a few companies, mainly in Dar es Salaam and Arusha (e.g. Power Foods in Dar es Salaam and Med Food Products in Arusha) that

started small and have become medium size, and whose products are characterized by wider distribution and sales, and also by product diversity and enhanced quality and marketing characteristics, especially for blended and other flour products. We are also told, by informed observers, that a small number of the companies producing the apparently undifferentiated maize meals are, in fact, developing a reputation for better quality control and service, and are expanding their spatial coverage within their city of manufacture. These issues will be better understood and quantified following the retail survey mentioned above.

Packaging: Products in the three cities are clearly distinguished by the complexity of packaging. Table 5 shows that Arusha, despite being smaller and having fewer companies than Dar es Salaam, manufactures products with the most complex packaging: 58% of maize flour and 98% of blended and other flour products use “complex” packaging, compared to only 12% and 41% in Dar es Salaam. Not surprisingly, products manufactured in Mwanza have the least complex packaging, with 0% of maize flour products and 33% of blended and other flour products attaining that classification.

Table 5. Type of Product Packaging by Manufacturing Location

Product Group	Location of Manufacture	“Simple” Packaging		“Complex” Packaging			% “complex” packaging
		Poly sack	Thin clear plastic with paper label	Colored thick plastic with design	Paper sack or cardboard box	Other complex packaging	
Maize Flour	Dar es Salaam	70	13	3	8	-	12
	Arusha	8	-	4	7	-	58
	Mwanza	20	-	-	-	-	0
	Other Tanzania	1	-	-	1	-	50
Blended and other flour	Dar es Salaam	5	37	5	23	1	41
	Arusha	-	1	3	48	9	98
	Mwanza	-	16	1	7	-	33
	Other Tanzania	-	3	2	5	-	70

Maize flour preferences: Table 6 together with interviews of retailers suggest four main findings regarding consumer

maize meal preferences. First, when purchasing maize meal, consumers in all three cities preferentially purchase

⁶ We make this statement based on independent, unprompted responses from several retail traders and at least one informed market observer. Note, however, that Bakhresa is expanding

regionally, having recently acquired Blue Ribbon Milling in Zimbabwe.

highly refined “sembe” maize flour—at least 60 companies provide it in Dar es Salaam, 16 in Arusha, and 22 in Mwanza.

Second, very little “dona” flour is purchased in Mwanza and Arusha: we found only one company doing so in Mwanza, and three in Arusha. Third, consumers in Mwanza nonetheless appear to consume meaningful amounts of “dona” flour, but they do it by producing or purchasing their own maize grain and having it processed by a miller, or by purchasing the flour directly from a

miller, not a retail shop or market. Fourth, consumers in Arusha appear much less likely to consume dona, whether purchased or produced.

Finally, Dar es Salaam has seen a resurgence in the availability of dona flour in markets, with 34 companies providing this product; retailers suggest that this phenomenon is related to renewed interest in nutritious eating, and the fact that dona flour has higher levels of vitamins and protein than the highly refined sembe flour.

Table 6. Location of Manufacturing – Number of Companies for Dona vs. Sembe Products

Product Group	Location of Manufacture	Total number of companies selling in:		
		Dar es Salaam	Arusha	Mwanza
Highly Refined (“Sembe” Flour)	Dar es Salaam	48	3	--
	Arusha	2	12	1
	Mwanza	--	--	19
	Other Tanzania or neighboring International	1	1	2
		9	--	--
Whole mean (“Dona” Flour)	Dar es Salaam	34	1	--
	Arusha	--	2	--
	Mwanza	--	--	1

CONCLUSIONS AND GOALS FOR FUTURE RESEARCH:

Tanzania is experiencing rapid food system change at both retail and processing levels. Much of this is occurring in urban centers, but at different rates across cities. Mwanza is clearly at an earlier stage of transformation, as evidenced by a number of factors: (1) the overall low share of imports, (2) the relative lack of modern retail, (3) the widespread consumption of dona flour that consumers have processed themselves or obtained directly from millers, (3) the relative simplicity of product packaging, (4) and the lack of medium sized or semi-national processing companies.

On the other hand, the progression is not so clear-cut across Dar es Salaam and Arusha. Dar es Salaam is arguably at a more advanced stage of food retail transformation, evidenced by its greater number of large format and chain supermarkets. Arusha is arguably at a

more advanced stage of food processing transformation, evidenced by the higher level of product packaging complexity for its flour products. It also has about as many semi-national or nationally representative companies overall, which is impressive given that its population is much lower than that of Dar es Salaam.

These are still preliminary results. There is much work to be done to evaluate the dynamics of food system change - especially as the industry enters more rapidly into what we expect to be an already-unfolding phase of consolidation. Understanding these dynamics is important in order to help steer policy in a direction that supports the capacity of the local food industry to compete with imports, to ensure food safety and affordability, and to provide employment to the huge population of youth entering the job market.