

Overview and Context



Project Healthy Children

PHC works with governments, NGOs and private industry to improve health and well-being by designing and implementing comprehensive food fortification strategies. Our experience has shown that to successfully implement a sustainable program, three elements are required.

Fortification Strategy

- Using data on consumption practices, market dynamics, and trading patterns specific to each country
- Understanding regional regulations and standards of trading partners
- Setting standards for which food products should be fortified, with what nutrients, and at what levels
- Describing method and means for monitoring and regulating

Fortification Legislation

- Containing broad, enabling provisions establishing purpose and boundaries of legislation
- Mandating the Ministry of Health to require food standards to improve health of the population
- Giving the Bureau of Standards or appropriate body the authority to define specific standards, monitor adherence and enforce regulations

Industry Engagement

- Engaging industry to educate, advocate and encourage participation in planning for fortification before legislation is implemented
- Investigating economic models to ensure strategy can be implemented efficiently and at the lowest cost
- Identifying potential technical issues and identifies solutions to those issues
- Working with local industry to procure equipment and fortificants at the lowest cost

Micronutrient Malnutrition in Rwanda

Several studies have identified malnutrition as an issue from which many Rwandans, particularly women and children, continue to suffer.

- Micronutrient malnutrition is one of the most common causes of child mortality as moderate and hidden malnutrition contribute to more than 60% of child deaths¹
- Of children under 5 years of age, 22% were underweight, 45% stunted and 4% wasted; these conditions increase the risk of disease, reduce mental function and limit physical productivity
- The incidence of goiter, which often results from either a deficiency or an excess of iodine and impairs thinking and learning, is observed in 26% of school age children³
- Sub-clinical vitamin A deficiencies, which cause damage to the eye and can lead to increased morbidity and mortality in children, were reported in 25% of children under 6 months, 21% of children 6 to 12 months of age and 7% of women of reproductive age ²
- The incidence of iron deficiency in children remains high although it decreased from 69%⁴ in 2000 to 48% in 2008⁵
- Iron deficient anemia, which contributes to maternal mortality, is a significant issue although it fell from, 43% of women in 2000⁴ to 27% in 2008⁵

¹ Ministry of Health, 2003

² 2005 DHS

³ Ibid

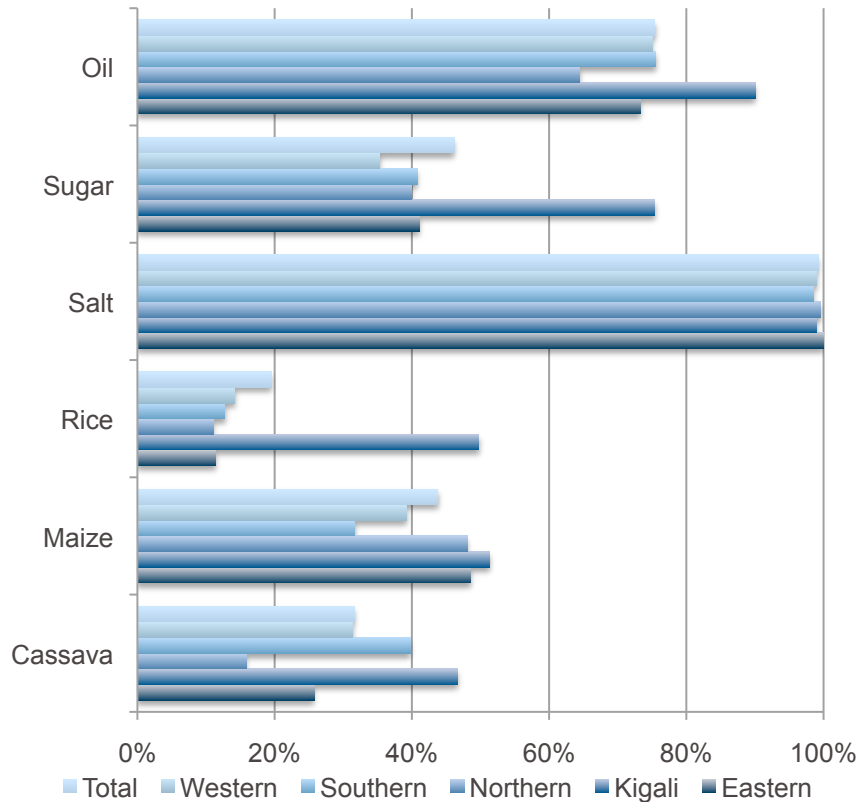
⁴ 2000 VMD Progress Report

⁵ 2007-2008 mini-DHS

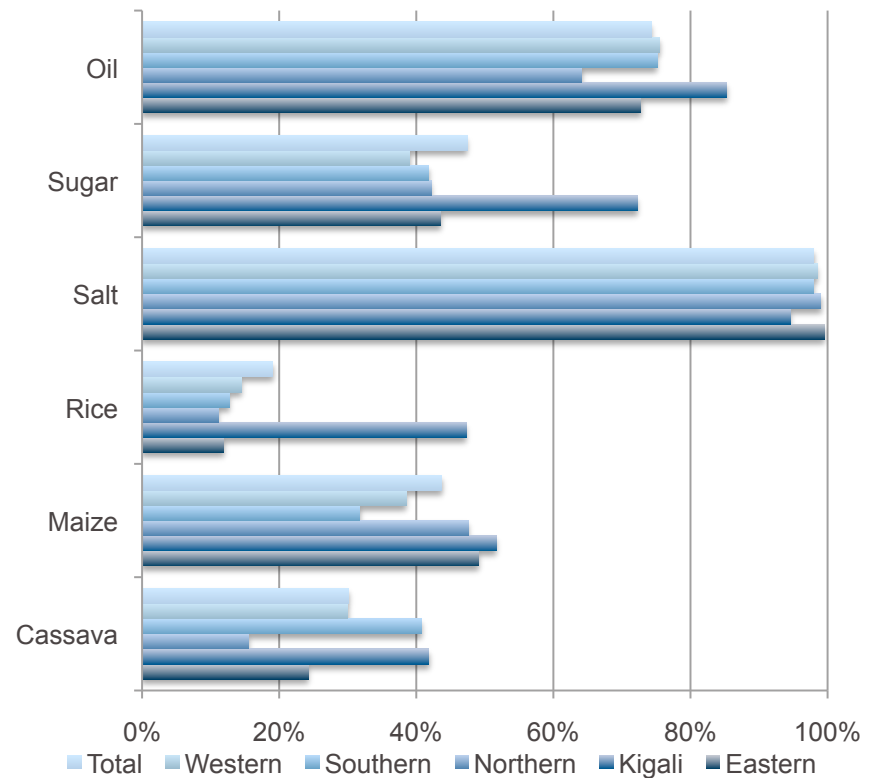
Consumption Patterns

Nationally representative data was collected on the consumption patterns of women 16-45 years and children under 59 months of age for six staple food items.

Percent of Women Who Consume Each Staple Daily
n = 1001



Percent of Children Who Consume Each Staple Daily
n = 981

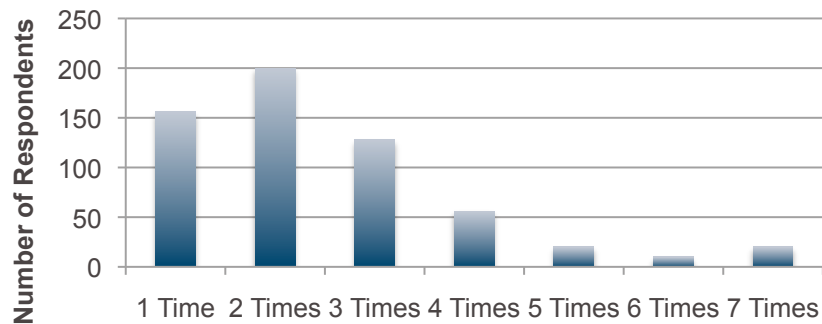


Additional Data

In addition to the whether each of six staples were consumed, additional data was collected on the frequency and amount of consumption, purchasing preferences, storage methods and methods of preparation.

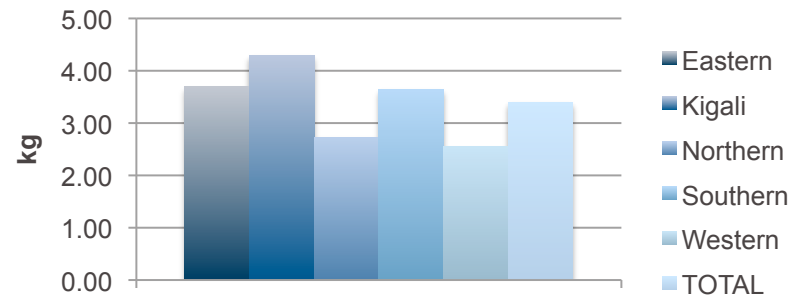
Weekly Cassava Consumption: Women

n = 590, average = 2.48, σ = 1.43



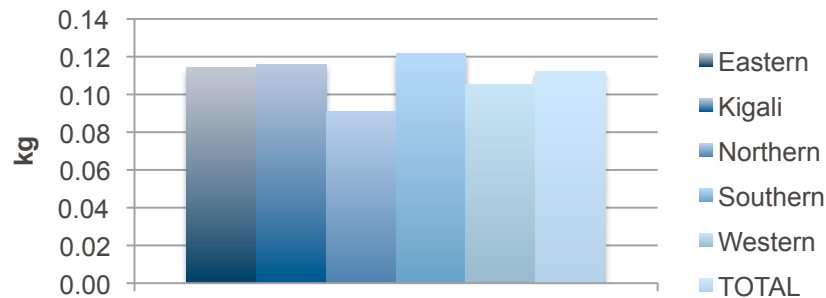
Average Amount per Cassava Purchase

n = 855



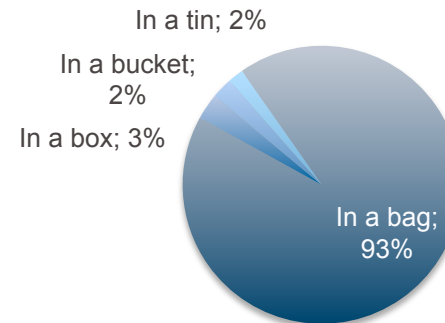
Average Cassava Consumed: Women

n = 321



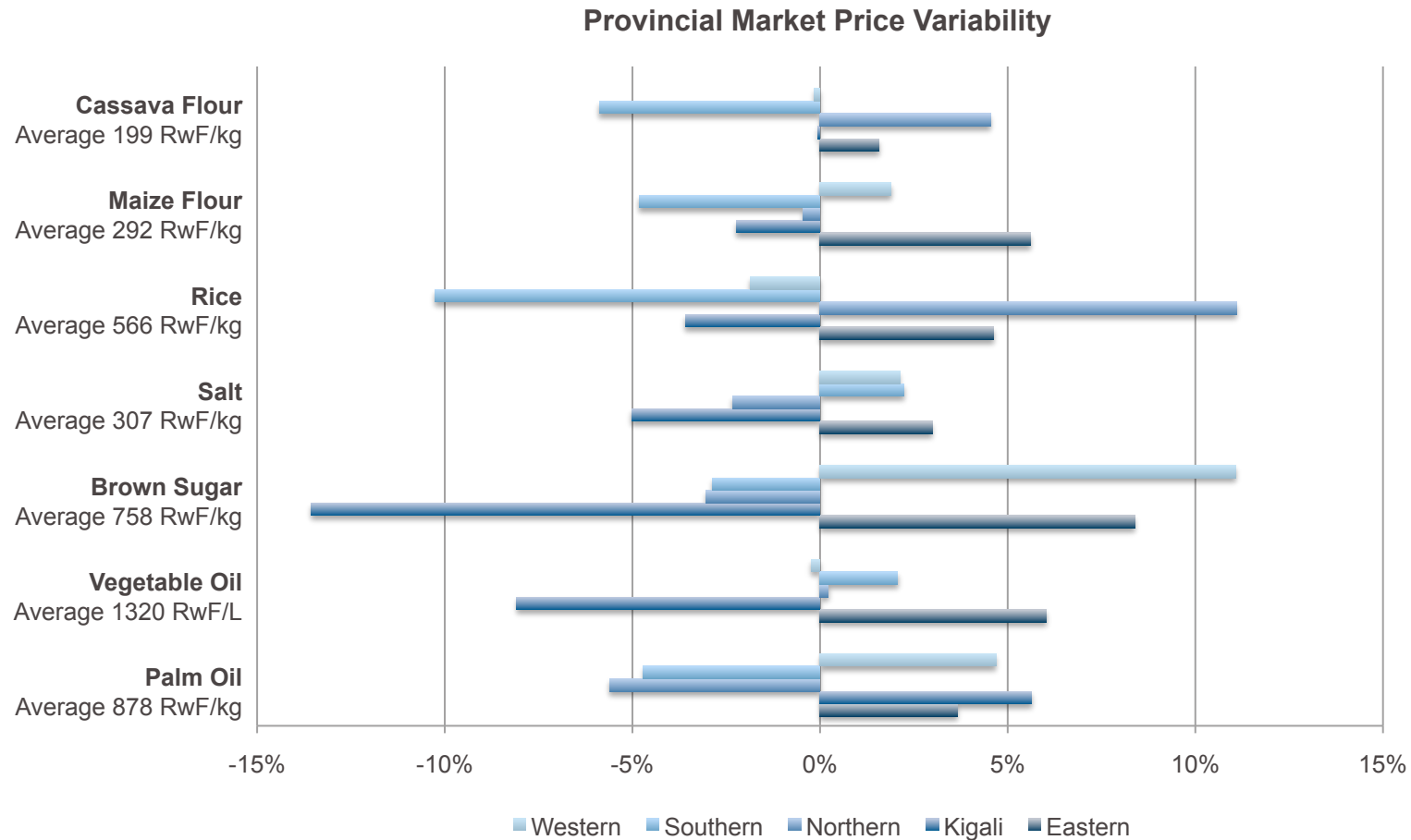
Cassava Storage Method

n = 165



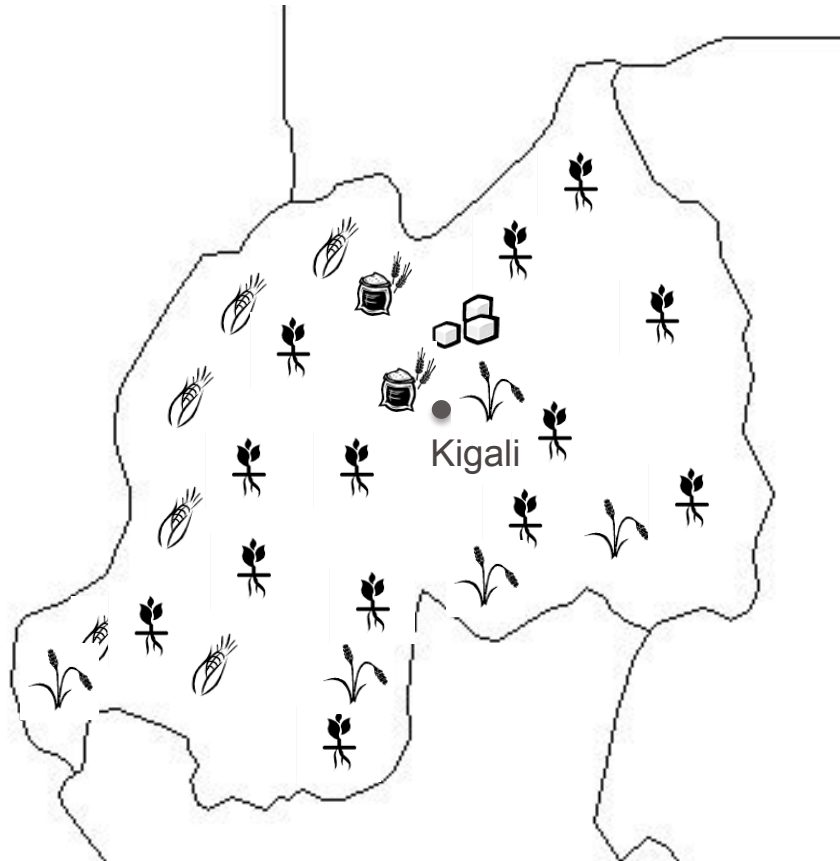
Market Pricing







Except for rice and brown sugar, there is limited variability across provinces for different staple items.



Local Food Production

Agricultural production in Rwanda varies by geography; while cassava is grown nation-wide, maize is concentrated in the north and rice in the south. Furthermore, most processing, for sugar and flour are located close to Kigali.

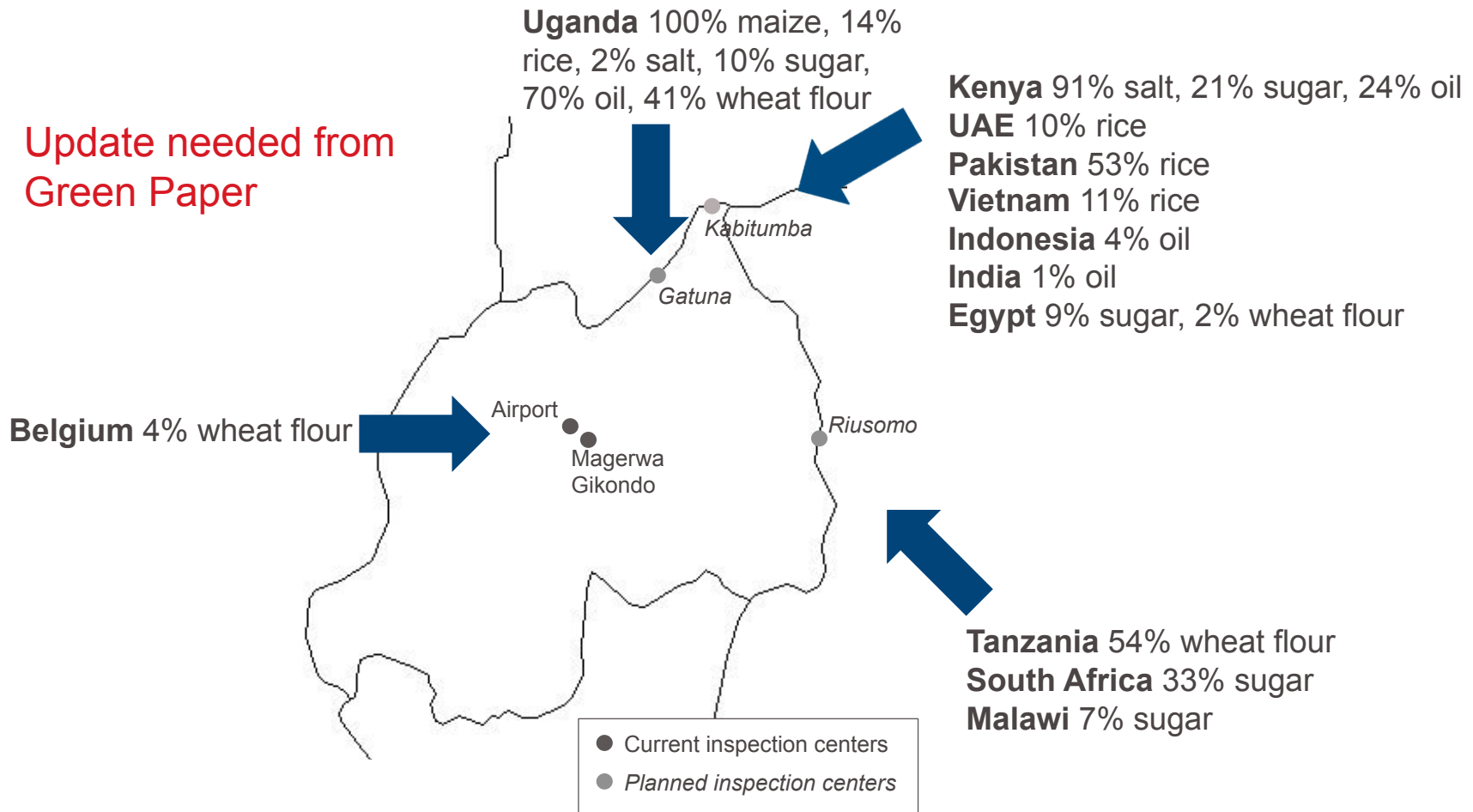


Staple Food		% Locally Produced
	Cassava	100%
	Maize flour	TBD
	Rice	62%
	Salt	0%
	Sugar	42%
	Oil	12%

Source: Rwanda Bureau of Standards, 2007 import records, Ministry of Agriculture and of Commerce 2008 production data, BNR, RRA, RADA interviews and calculations

Food Imports

Imported staple food products—the majority of which are from neighboring and East African countries, with a small amount from Europe, Asia and the rest of Africa—are inspected by RBS upon arrival at one of five check points.



National Food Standards

Several staple foods are already subject to national or regional standards.

Product	Standards	
	Number	Content
Sorghum	RS30:2004	Requirements for sorghum flour for human consumption
Maize	RS28:2008 RS121:2006	Requirements for whole maize meal for human consumption Requirements for dry milled maize for human consumption
Rice	RS27:2007	Requirements, classification and methods of testing for milled rice for human consumption
Salt	EAS35:2000	Requirements for edible salt
Sugar	RS96:2007 RS95:2007	Requirements for refined white sugar for human consumption Requirements and methods of testing for brown sugar for human consumption
Oil	RS47:2007	Requirements vegetable oils for human consumption
Wheat Flour	RS31:2004	Requirements for whole wheat flour or mixtures for human consumption

Process for Developing Food Standards

A standards development procedure has been defined by the Rwanda Bureau of Standards. We will assemble and engage a team using this approach moving forward.



- The need for new standards is identified, presented to RBS and included in the work plan
- Technical Committee convened and standard drafted, revised and balloted during meetings.
- Committee draft of standard prepared for public review and available for 60 days in government newspaper
- Standards edited and sent to Management Committee to be approved and Director General to be signed
- Final standards ratified by RBS Board of Directors, maintained in information library and published in Official Gazette