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Bellmon Estimation Studies
for Title II (USAID-BEST)



USAID OFFICE OF FOOD FOR PEACE BURUNDI USAID-BEST ANALYSIS

SEPTEMBER 2013

This report is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of Fintrac Inc. and do not necessarily reflect the views of USAID or the United States government.



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Front cover: (Left) A variety of grains and pulses for sale in the town's main market. Gitega, Burundi, August 2013. (Right) A young trader sells grains in the market of Rumonge. Bururi, Burundi, August 2013.

Back cover: The provinces of Kayanza and Muramvya are the primary wheat growing regions in Burundi. Here a girl watches a study author curiously from amid her family's field of wheat. Kayanza, Burundi, August 2013.

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PREFACE

During the months of July-August 2013, the Bellmon Estimation Studies for Title II (USAID-BEST) team undertook a study of the current state of agricultural markets in Burundi to inform USAID food assistance programming decisions.

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ACRONYMS AND NOTES

AFDB	African Development Bank
BBDT	Banana Bunchy Top Disease
BCC	behavior change and communication
BEST	Bellmon Estimation Studies for Title II
BIF	Burundian Franc
BMI	Body Mass Index
BRA	Burundi Revenue Authority
BRB	Banque de la Republique Burundi
BXW	Banana Xanthomonas Wilt
CAADP	Comprehensive African Agricultural Development Program
CBSD	Cassava Brown Streak Disease
CDSO	Crude Degummed Soybean Oil
CFR	Cost and Freight
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CHW	Community Health Worker
CIF	Cost, Insurance, and Freight
CMAM	community-based management of acute malnutrition
CMV	Cassava Mosaic Virus
CNVDP	National Commission for the Sale of Goods from the Private Sector (Commission Nationale chargée de la Vente des Biens du Domaine Privé de l'Etat)
COMESA	Common Market for Eastern and Southern Africa
CRS	Catholic Relief Services
CSB	Corn Soy Blend
CSLP	Burundi Strategic Framework for Economic Growth and Poverty Alleviation
CWIQ	Core Welfare Indicator Questionnaire
DHS	Demographic and Health Survey
DRC	Democratic Republic of the Congo
DWT	deadweight ton
EAC	East African Community
EPB	Port of Bujumbura Operations (Exploitation du Port du Bujumbura)
FANEP	Food Aid Nutrition Enhancement Program
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FARN	Foyers d'Apprentissage et de Recuperation Nutritionnelle
FAS	Foreign Agricultural Service
FCS	Food Consumption Score
FEG	Food Economy Group
FEWS NET	Famine Early Warning Systems Network
FFA	food-for-assets
FFP	Food for Peace
FFPr	Food for Progress
FFW	food-for-work
FH	Food for the Hungry
FOB	Free on Board
FY	Fiscal Year
GAFSP	Global Agriculture and Food Security Project
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
GoB	Government of Burundi
GoT	Government of Tanzania

HH	Household
HIV	Human Immunodeficiency Virus
HP	Humid Plateaus
HRW	Hard Red Winter
ICD	inland container depot
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IGA	Income Generating Activities
IMC	International Medical Corps
IPC	Integrated Food Security Phase Classification
IPP	Import Parity Price
IR	Intermediate Results
ISTEEBU	Institute of Economic Studies and Statistics (Institut de Statistiques et d'Etude Economique du Burundi)
JICA	Japan International Cooperation Agency
Kcal	Kilocalories
LDC	Least Developed Country
LIFDC	low-income, food-deficit country
MCHN	Maternal Child Health and Nutrition
MINAGRIE	Ministry of Agriculture and Livestock (Ministère de l'Agriculture et de l'Elevage)
MPWE	Ministry of Public Works and Equipment (Ministère des Travaux Publiques et de l'Equipement)
MYAP	Multi-Year Assistance Program
NAS	National Agricultural Survey
NEPAD	New Partnership for Africa's Development
NFDM	Non-Fat Dried Milk
NGO	non-governmental organization
NIFA	National Institute of Food and Agriculture
OdR	Office for Roads (Office des Routes)
OECD	Organization for Economic Cooperation and Development
OHP	Office de l'Huile de Palme
P4P	Purchase-for-Progress
PATH	Program for Appropriate Technology in Health
PLW	pregnant and lactating women
PM2A	Preventing Malnutrition in Children under 2 Approach
PNIA	National Agricultural Investment Plan (Programme National d'Investissement Agricole)
PRONIANUT	National Integrated Program for Food and Nutrition (Le Programme National Intégré d'Alimentation et de Nutrition)
PROPA-O	Projet pour accélérer l'atteinte de l'Objectif du Millénaire pour le développement (OMD) 1c
PRRO	Protracted Relief and Recovery Operation
PRSP	Poverty Reduction Strategy Paper
PVO	Private Voluntary Organization
RC	Communal Roads
RFA	Request for Application
RN	National Route
RP	Provincial Road
RUTF	Ready-to-Use Therapeutic Foods
RVO	Refined Vegetable Oil
SCP	Structure, Conduct, Performance
SFB	Soy-fortified Bulgur
SFCM	Soy-fortified Corn Meal

SOW	Scope of Work
TCM	Third Country Monetization
TEU	Twenty-Foot Equivalent Unit
TICT	Tanzania International Container Terminal
U2s	Children Under Two Years of Age
U5s	Children Under Five Years of Age
UK	United Kingdom
UMR	Usual Marketing Requirement
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
US	United States
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
VAM	Vulnerability Analysis and Mapping
VAT	Value-Added Tax
WFP	World Food Programme
WHO	World Health Organization

Exchange Rate: US\$1 = BIF 1,547



CHAPTER I

EXECUTIVE SUMMARY

Rural Burundi is characterized by very small plots of land like these. Kayanza, Burundi, August 2013.

Photo by Fintrac Inc.

This executive summary is a synopsis of the full USAID-BEST Analysis, which provides an overview of local markets, food security programs, recommendations for program design, monetization feasibility, and the adequacy of ports, transport, and storage. The executive summary is a condensed version of these topics as detailed findings from research and field work are covered in subsequent chapters.

1.1. OVERVIEW OF LOCAL MARKETS

To inform the next Title II cycle, the following analysis highlights the most relevant aspects of national food deficits, local markets, and markets for main staple commodities. This section concludes by touching on some possible Title II in-kind and complementary market-based food assistance programming. Chapter 2 examines in greater detail these topics.

1.1.1 National Food Deficits

Food consumption. Beans, bananas (including plantains), cassava flour, sweet potatoes, potatoes, and palm oil represent the most important staples for the average Burundian. Consumers eat cereals, such as rice, maize, wheat, and sorghum, less frequently. Overall, Burundians enjoy a relatively diverse diet, but energy consumption still falls below the minimum World Health Organization (WHO) requirement,¹ especially for

proteins and fats; carbohydrate consumption is high due to the popularity of cassava flour and tubers.

Crop Production. According to the most reliable source for agricultural data, the 2012 National Agricultural Survey, cereal production hovers at around 240,000 metric tons (MT), tuber production 2 million MT, bean and pea production 220,000 MT, and banana production 642,000 MT. The 2009-10 and 2010-11 production seasons varied considerably as tubers and roots decreased by 35 percent, and bananas and plantains more than 70 percent.²

Experts and the Government of Burundi (GoB) agree that reliance on subsistence agriculture, population pressures, sudden climatic variations, an increase in plant pest and diseases, and overall poor farm management limit food availability. Burundi has the potential to increase production, and some areas can even produce during three seasons. However, according to official data, food production has decreased by more than 40 percent since 2000. Currently, the per capita food deficit is estimated at 44 kg per year.

Food access. Extreme poverty remains the primary obstacle to food access in Burundi. A high dependency on subsistence agriculture, particularly in rural areas where more than 90 percent of households (HHs) depend on sales of agriculture products and labor, results in reduced incomes. Most HHs

1 Abrahams, Zulfa, Mchiza, Z., and Steyn, N., 2011, "Diet and mortality rates in Sub-Saharan Africa: Stages in the nutrition transition", BMC Public Health, 11.

2 MINAGRIE, May 2013, *Enquete Nationale Agricole du Burundi 2012-2013 Resultats de la Saison A.*

produce their own food, but this production does not provide enough food and families must depend on markets during the lean season.³

For the average Burundian HH, food represents more than 60 percent of expenditures, meaning that even a small increase in food prices can negatively affect HH disposable income.⁴ Since 2010, food prices have varied considerably from year to year. The largest increase was observed in January 2013. While food prices generally increase every January (main lean season for most commodities), the variation in 2013 was relatively greater than previous years. In addition, for certain commodities, prices remained exceedingly high by July 2013 (harvest time), reportedly ranging from 16-45 percent higher than in the past.⁵

Government policies. The GoB initiated the National Plan of Agricultural Investment (PNIA, *Plan National D'Investissement Agricole*) in 2009 to better coordinate financial resources for the development of value chains and agri-businesses.⁶ As a result, in 2012 the government increased the share of the public budget invested in agriculture by 11.8 percent. The GoB is also giving priority to staple crops (bananas, cassava, potatoes, sweet potatoes, beans) and plans to diversify production by providing more support to palm, soy, sunflower, and groundnut oil as well as sugarcane, wheat, maize, barley, sorghum, rice, and livestock products (milk and meat). Provided that funding for agricultural development continues to grow and institutions dealing with the agricultural sector are able to coordinate efforts, production could experience a considerable increase in the near future.

However, despite efforts to support increased agricultural production, in June 2013 the GoB imposed a new food tax on imported products that will likely increase food prices for most poor consumers, further complicating access for those in need.⁷

1.1.2 Local Food Deficits

Although most staple crops are produced all over the country, an extremely high proportion of people living in poverty with small average landholdings means that most HHs across the country are susceptible to food deficits almost every year.

The main areas suffering from widespread poverty and poor and marginal food consumption are in the center of the country (Humid Plateaus) and the northern province of Kirundo. In some areas where poverty is acute, such as in Muyinga and Ruyigi, local production capacity coupled with imports from neighboring provinces and countries can satisfy local demand.

3 MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*.

4 MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*; MINAGRIE, May 2013, *Enquete Nationale Agricole du Burundi 2012-2013 Resultats de la Saison A*.

5 FEWS NET, July 2013, *Burundi Remote Monitoring Update July 2013*.

6 MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*.

7 FEWS NET, July 2013, *Burundi Remote Monitoring Update July 2013*.

1.1.3 Findings for Market Sites

USAID-BEST visited 18 markets across 17 provinces in August 2013 based on size and volume of major commodities traded; specifically, the analysis focuses on those markets selling cassava flour, bananas, beans, rice, maize meal, wheat grain, potatoes (Irish), and vegetable oils (including palm oil).

In all markets observed, vendors were selling relatively small quantities of food aid, specifically refined vegetable oil (RVO) and cornmeal. However, demand for food aid items varied depending on the market and the commodity; RVO was more prevalently witnessed.

Markets across provinces share some characteristics. Central markets located in provincial capitals were in relatively new buildings and usually well maintained. Markets were divided into sections corresponding to commodities.

Regarding traders, all markets had a large number of small-scale traders and farmer/traders,⁸ who individually transport small volumes. Medium-scale wholesalers, also numerous in most markets, were more likely to work with collectors in rural communities. However, these traders do not work together to set prices or collectively purchase large volumes. Large-scale wholesalers focus mostly on imported products and aim to first target the Bujumbura market where most high-income consumers reside. Large-scale wholesalers are more likely to handle imported commodities.

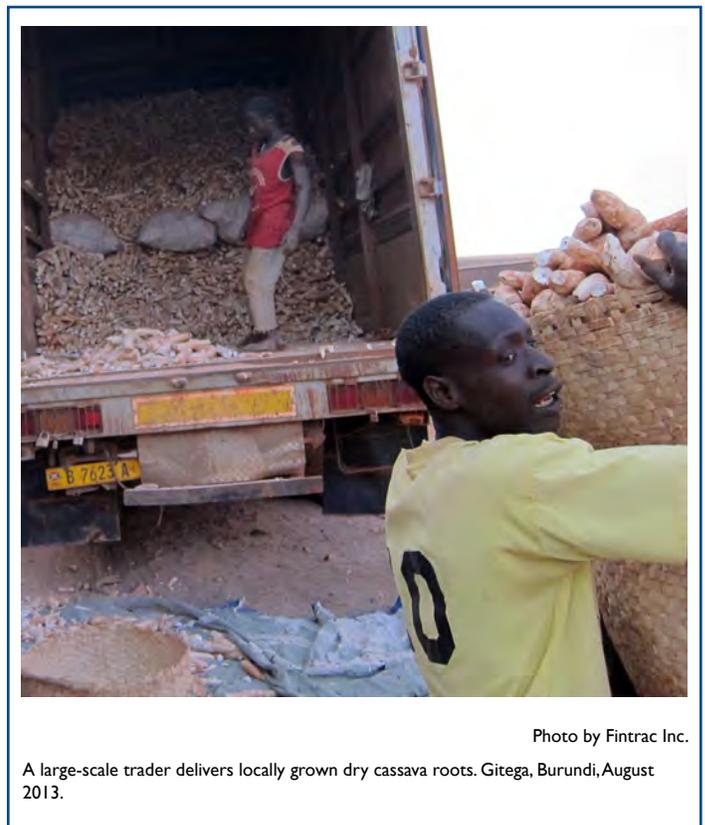


Photo by Fintrac Inc.

A large-scale trader delivers locally grown dry cassava roots. Gitega, Burundi, August 2013.

8 In this report, farmer/traders refer to producers who at the time of the team market visits were selling their products alongside retailers and wholesalers in local markets.

1.1.4 Commodity Markets

This section briefly outlines the structure, conduct, and performance of main commodities considered staple foods that are relevant for food security programming. A more detailed explanation is provided in Chapter 2. USAID-BEST based the selection on whether the products were a) widely consumed across the country; b) generally traded in different markets and across regions; and c) relevant for Title II food aid distribution.

Cassava. More than 70 percent of the population consume cassava, and some HHs eat this product three times a day. Cassava-derived products are obtained from local or HH level milling. Cassava ranks third in terms of volume produced. During the lean season, consumers generally substitute cassava flour for sweet potatoes and maize meal. Also at this time, imports at border areas represent an important source despite higher prices.

Despite resiliency to climatic shocks and disease, cassava yields have suffered due to sudden variations in weather and prolonged disease attacks. Since 2011, overall production has seen sudden increases and decreases from one season to the next.

A large number of traders is involved in the cassava value chain. Although most trade is generally confined to local markets, traders switch to regional and cross-border imports when local production is insufficient. Informal imports are particularly important to provide enough supply and a cushion for sudden price variations.

In all markets visited, the most important price variation occurs from the beginning to the end of the harvest season (July to October). Cassava flour retail markets tend to be integrated.

Bananas. Burundians consume bananas almost daily. Bananas are also processed into a local wine known as *urwarwa*. Although total production is around 1 million MT per year, around 65 percent of this volume goes to *urwarwa*.

The supply of bananas to local markets tends to decrease during the wet season (September-April). With the exception of Bujumbura, Rumonge, and Nyanza-Lac, most markets source bananas locally. Although banana traders mostly concentrate in one area of the market, they do not jointly set prices, but instead openly bargain with consumers.

Banana markets are generally less well integrated. The variable level of price correlation confirms that most banana trade is done locally; only main markets, such as Bujumbura, Ngozi, and Gitega, are likely to be integrated.

Beans. Burundians consume beans daily, and beans of different varieties are available throughout the country. High-income consumers, especially in Bujumbura and Gitega, prefer and are willing to pay high prices for yellow beans because of perceived

better taste compared to other varieties. Low-income consumers usually can only afford red or mixed-color varieties.

In the ongoing 2013 season, production has suffered from stagnant growth. Traders primarily cited lack of irrigation and fertilizer as the main reasons for low production. Although it is possible to harvest beans three times per year, supply is not stored. HHs in bean-producing areas typically consume their entire harvest. In those regions where production is limited, regional and cross-border imports complement local production.

A large number of subsistence agriculture farmers sell their production to numerous small-scale traders who aggregate production and transport to local markets around production areas. In general, yellow varieties are most traded because of their high retail value. Additionally, in recent seasons, exports to Tanzania have grown due to a shortage of beans in that country caused by adverse weather conditions; exchange rate differences are also more favorable for Tanzanian traders.

Prices are extremely variable depending on the season. In general, prices are low in April at the beginning of the season and then slowly increase until September. Despite large price margins between producer and retail prices, low retail prices and high transportation costs prevent traders from realizing profits.

Bean prices show high price correlations (above 75 percent) among all the markets for which price data are available. This level of price integration suggests that retail prices in different markets across the country varied during the specified period (which was confirmed during interviews).

Maize. Maize is generally consumed milled and mixed with other cereals. In recent years, maize has become an important substitute for cassava flour, and people also use maize meal to make *ugali*.

Production shortages are increasingly common due to climatic conditions and post-harvest losses. Additionally, stored maize is not generally treated to preserve its quality, and supply is finished usually during the same season. Imports from Rwanda, Tanzania, and Uganda have become more important due to their availability and quality.

Compared to other commodities, maize meal prices were less variable. Consistently, prices for imported maize meal was higher than for local varieties. Maize grain prices show high price correlations (above 70 percent) among markets. This level of price integration confirms that retail prices in different markets across the country varied together during the specified period.

Wheat. Burundians generally first mill wheat grain and then use it as an ingredient for porridge, generally mixed with soybeans or other cereals. Limited supplies of local wheat grain is used for flour production.

Subsistence farmers dominate production of wheat. Farmers generally use wheat grain for own-consumption and then sell any small surpluses to markets. Besides production markets in Muramvya and Kayanza, the central markets of Gitega and Ngozi become important supply sources for wheat grain starting in August when traders bring their surpluses.

Local wheat grain prices are variable according to season. Wheat grain imports for direct consumption are not common as most HHs consume their own yields.

Rice. Rice is widely consumed mostly in urban areas. Low-income consumers generally purchase low-quality rice (e.g., mostly broken rice) whereas wealthier consumers purchase imported or local varieties that are more aromatic and unbroken.

Although Bubanza and Ngozi appear to produce enough rice to satisfy local market demand, all other areas require imports (either regional or cross-country). Currently, imported rice represents less than 10 percent of total production. Gitega is one of the largest markets from which traders buy and sell rice to different parts of the country.

For local varieties, small-scale traders and farmer/traders supply low-quality, cheaper rice for low-income consumers. In the import market, large-scale wholesalers supply more expensive rice with specific quality characteristics (e.g., whole grain, aroma) to high-income consumers.

Rice prices show high price correlations (above 80 percent) among markets for which data are available. This level of price integration confirms that retail prices in different markets across the country varied together during the specified period and traders move products based on price differentials.

Palm oil. Consumers generally use palm oil for cooking vegetables and preparing sauces. In urban areas, consumers increasingly prefer refined vegetable and palm oils rather than the common unrefined oil produced and widely consumed in rural HHs; in some rural markets, unrefined palm oil is the only type available.

The main production area is in Rumonge Province. About half of total production from Rumonge is shipped to the North (Kayanza, Ngozi, Kirundo, and Muyinga) in trucks and cars, 30 percent is delivered to Bujumbura and the South, and about 20 percent is transported to the East and Center (Gitega, Ruyigi, Karusi, and Cankuzo) using mainly cans and bags transported on bicycles. Currently, 1,028 plants extract palm oil in Burundi, out of which 957 plants are artisanal factories. Average palm oil yields vary depending on the type of facility used for extraction. Traditional artisanal plants are more inefficient, lack the capacity to produce refined oil, and have questionable quality and food safety standards. The GoB has developed a program to assist palm oil producers, which is expected to increase RVO volumes in coming years. Once these factories are capable of producing quality oil required by most donors, USAID should consider

local procurement so as to support this industry.

Until 2008, Burundi exported unrefined palm oil into Rwanda. However, Rwanda no longer accepts this kind of product. Currently, Savor Company does export refined oil to Rwanda. Informal imports likely represent an important share of the market.

Palm oil price data are not currently collected, but all markets visited appear integrated as unrefined palm oil prices were similar.

Potatoes. Burundian HHs consume Irish and sweet potatoes almost daily. Usually, Irish potatoes are traded when HH food production is not enough whereas sweet potatoes are consumed exclusively at home.

An important advantage for potato production is that they generally grow in combination with vegetables because planting and harvest seasons are different. In recent years, production from Ngozi Province has gained market share due to its quality and because farmers are able to produce excess supply. Besides Ngozi, all other production areas rely on imports when local production is depleted.

Small-scale traders who collect potatoes in farming areas and deliver them to markets dominate the trade. Large-scale wholesalers are not commonly involved in the potato trade. With the exception of Ngozi, local and imported potatoes vary significantly across markets. In general, because local varieties are also smaller and considered lower quality, prices tend to be much lower than both imported and improved varieties from Ngozi.

1.1.5 Implications for Title II and Complementary Market-Based Programming

In-kind food assistance that targets distribution during the lean season and includes nutritious commodities are likely to have a positive effect on HHs while creating the least amount of disincentives to local production and trade. A future development food assistance program should consider the following when selecting commodities:

- **Corn Soy Blend (CSB)** is appropriate to continue including in any ration intended to provide nutritional support. Local cereal blends are fortified with soybeans but are not comparable to CSB from the US because they do not contain micronutrients; additionally, the high cost of the local cereal blend restricts access for the average consumer and limits availability to urban markets. In rural areas, poorer HHs cannot access any kind of cereal blends because the ingredients (wheat, maize, soybean) to make their own product are too expensive. USAID could consider local procurement of CSB if the companies currently producing the local cereal blends are able to fortify their product with micronutrients and significantly increase the volumes produced.

- **RVO** is appropriate to include in a Title II ration. Currently, fat consumption remains below the WHO recommended amount for a healthy life, vegetable oils are relatively expensive for most consumers, and the palm oil widely used by consumers is of low quality and not fortified. In the future, if local RVO production substantially increases (as projected by the GoB) and the oil is fortified, USAID should consider local purchases to support the oil industry.
- **Maize** should be considered for inclusion in a Title II ration. Considering the current state of this sector, maize meal from transoceanic sources would have a limited effect on local markets in the short term. However, since transoceanic shipments could compete with regionally grown meal from Tanzania and Uganda, USAID should consider regional procurement.
- **Pulses** should be considered for inclusion in a Title II ration. Including beans during its lean season, when locally produced beans are generally not available, would not harm local markets.
- **Rice**, from transoceanic sources, will compete with locally produced rice. Rice is an important staple and the rice sector has consistently received support over the years to improve production and develop local value chains.
- **Sorghum** should not be included in any Title II ration given that more than 90 percent of sorghum is used to produce local beer, rather than as food.

For **complementary market-based programming** in Burundi, USAID should consider the use of cash and/or vouchers in areas where markets are physically accessible to beneficiary populations and during harvest season when production is generally available.

1.2. OVERVIEW OF FOOD SECURITY PROGRAMS

This section presents the most salient points of a more detailed analysis in Chapter 3 that examines the current food security programming trends and summarizes the most relevant food security and nutrition projects, including those programs not directly distributing food aid, but are still contributing to decreasing food insecurity in Burundi.

1.2.1 Programmatic Trends

USAID-BEST observed the following trends among food security and nutrition projects:

- Focusing on agricultural productivity and incomes to address chronic malnutrition;
- Carrying out food security and nutrition programs via a multi-sectoral approach;
- Targeting large segments of the poor population and spreading activities to all but one province in Burundi;
- Acknowledging the increasing need for coordinated efforts among donors and government agencies; and

- Adopting more local and regional procurement (LRP) and cash and/or voucher programs in the future.

1.2.2 Food Security and Nutrition Programs

USAID. Until 2012, Catholic Relief Services (CRS) implemented simultaneously the Multi-Year Assistance Program (MYAP) and the Preventing Malnutrition in Children under Two (PM2A) program, locally referred to as *Tubaramure* (“Let’s help them grow” in Kirundi); the PM2A program is scheduled to end in October 2014.

From 2009-12, CRS distributed on average more than 5,000 MT of food commodities every year including CSB, vegetable oil, maize meal, bulgur wheat, and yellow peas. In FY13, food distributions decreased to 2,200 MT as only CSB and vegetable oil have been distributed for the PM2A program. Additional support to current PM2A activities is provided via the monetization of US Hard Red Winter (HRW) wheat. USAID FFP also provides funding to WFP for emergency food distributions.

WFP. WFP runs two country programs (development programs) in Burundi, the school lunch and the assistance to vulnerable populations. In its Protracted Relief and Recovery Operation (PRRO), WFP provides assistance to refugees and returnees through institutional feeding and nutrition supplementation intended to reach children and mothers with acute malnutrition.

All WFP activities target the most food insecure areas of Burundi and these programs are currently operating in 14 of 17 provinces. Food-for-work programs are generally implemented in cooperation with other organizations, such as the International Fund for Agricultural Development (IFAD) and the World Bank. Since 2010, USAID contributions to WFP have increased to account for more than 30 percent of all food aid distributed in Burundi, but WFP continues to lack sufficient funding for its programs.

European Union. In 2013, the EU launched the Project to Accelerate the Achievement of the Millennium Development Goals (*Projet pour accélérer l’atteinte de l’Objectif du Millénaire pour le développement (OMD) 1c*) as part of the effort to reach Millennium Development Goal 1 by 2015. The EU also sponsors the Program for Food and Nutrition Security in Burundi and collaborates with the GoB to implement the Household Learning and Nutritional Rehabilitation program (FARN, *Foyers d’Apprentissage et de Rehabilitation Nutritionnelle*) that utilizes lead mothers to provide health education in communities.

Other projects. IFAD is currently implementing four projects which address community, agricultural, and livestock development for food security and economic growth. Additionally, the World Bank funds the PNIA and has recently approved funding for a Global Agriculture and Food Security Program in Burundi.

1.2.3 LRP

In March 2013, WFP started a pilot program in Burundi to source foods locally and regionally. Preliminary results indicate that limited production, quality control, and post-harvest handling represent the main barriers to expanding local procurement, but despite such obstacles, WFP expressed the desire to continue this program in the future.

1.2.4 Cash and Voucher Programs

WFP is the only organization currently distributing food vouchers to approximately 40,000 refugees from the Democratic Republic of Congo. However, voucher programs are only implemented in refugee camps. From an internal WFP evaluation, it appears that the voucher program has improved food consumption scores, diet diversity, and coping strategy indexes.

1.2.5 Government Programs

The GoB is in charge of setting the policy framework for all food security and nutrition programs. At the ministerial level, the Ministry of Agriculture and Husbandry leads the National Integrated Program for Food and Nutrition (*Le Programme National Intégré d'Alimentation et de Nutrition*), which is a policy framework under which all activities related to nutrition and agriculture have been implemented since 2009. The Ministry of Health oversees the implementation of the Community-Based Nutrition Programme (*Programme de Nutrition a Assise Communautaire*). The GoB receives most of the funding for food security and nutrition programs from international donors and seeks to collaborate with these partners when implementing different programs.

1.3. RECOMMENDATIONS FOR PROGRAM DESIGN

This section summarizes the most important recommendations and considerations detailed in Chapter 4 for a potential Title II program in Burundi. The following synopsis examines the most appropriate intervention areas and the various targeting options that could be utilized.

1.3.1 Targeting

Geographic targeting. Despite steady improvements since 2006, the level of poverty, estimated at 67 percent in 2012, remains extremely high in Burundi.⁹ Even more alarming is the level of chronic child malnutrition, with a stunting prevalence rate for children under five (U5s) estimated at 58 percent in 2010.¹⁰

Ngozi province has the highest stunting rates for children under two years of age (U2s) and is among the most densely populated and most vulnerable provinces according to the 2008

CFSVA.¹¹ Therefore, future Title II awardees should consider this province for assistance. Additionally, Karuzi and Kayanza should also be considered as potential options as these provinces have relatively higher rates of stunting, poverty, and/or vulnerability.

Seasonal targeting. During the lean seasons of September/October-November and February/March-April/May, cash-for-work (CFW) and food-for-work (FFW) activities should be intensified as food prices generally increase in these periods and food access and malnutrition issues are exacerbated.

HH targeting. Activities in the next cycle of food security programming should target pregnant and lactating women and U2s due to the importance of the first 1,000 days of a child's life in averting the consequences of chronic malnutrition. The program should strive to prevent malnutrition with food assistance rations in addition to identifying severely malnourished children and sending them to local health centers for recuperative support.

1.3.2 Commodity Selection

This section examines the selection of commodities for future Title II awardees to consider in the next programming cycle. The selection is based on the analysis of local markets and the appropriateness of these commodities from a food security and nutritional standpoint. Given limited domestic production and beneficiary purchasing power a FFW ration could include:

- **Pulses.** Yellow split peas and pinto beans could better complement the overall nutrition value of rations in a well-targeted program. However, it should be carefully targeted during its lean season to avoid harming local production and prices during harvest time.
- **RVO.** Lack of RVO consumption is most likely due to its high cost on the market rather than a strict preference in taste. Palm oil currently available is unrefined and not fortified.
- **Soy-fortified cornmeal or soy-fortified bulgur.** Either of these two products would complement the nutritional value of a ration and have minimal effects on local markets.

An MCHN ration could include:

- **CSB.** Beneficiaries are familiar with cereal blends, but average and low-income HHs cannot afford to buy all the ingredients.
- **RVO.** RVOs are an important nutrition source for lactating mothers and children. Distribution under a well-targeted program would not disrupt local markets.
- **Pulses.** Yellow split peas and pinto beans would complement the nutritional value of a ration; to protect the production of local beans, extra care should be taken to ensure consumption by intended beneficiaries.

9 GoB, August 2012, *Burundi: Poverty Reduction Strategy Paper II*.

10 ISTEEDU, May 2012, *Enquête Démographique et de Santé 2010*.

11 WFP, July 2008, *Vulnerability and food insecurity in three urban areas of Burundi*.

1.3.3 Local Food Procurement through Cash, Vouchers, and Donor Purchases

At the current level of production in Burundi, any **large local purchases of food** will likely have a negative effect on the market. However, if USAID and Title II partners invest in specific value chains that require small improvements to increase production, such as rice, then beneficiaries could purchase these commodities via cash and/or vouchers.

For **cash and voucher programs**, future Title II awardees could pilot a small-scale program that utilizes either modality. Any such projects should be carefully monitored. Future awardees could draw from the lessons learned by WFP to inform the design of a Title II voucher system.



Photo by Fintrac Inc.
Children play in front of a small shop in an urban market in Nyanza-Lac, Makamba, Burundi, August 2013.

1.4. MONETIZATION FEASIBILITY ANALYSIS

This section provides a synopsis of Chapter 5, which examines the current monetizations occurring in Burundi and offers recommendations for future Title II programming. Based on the desk review of available trade statistics, market analyses, other relevant country reports, interviews with key informants, and consultations with the USAID Mission, USAID-BEST found wheat grain as the most suitable commodity for monetization. A number of other commodities were considered (e.g., edible oil and maize grain) but were not viable candidates; rice was eliminated because of the political sensitivity surrounding the crop.

1.4.1 Wheat

CRS has monetized US HRW wheat in Burundi since 2008 to support its MYAP from FY08-12 and the on-going PM2A programming that is scheduled to end in October 2014. As of September 2013, the organization has monetized 43,910 MT of HRW wheat, averaging 7,318 MT of wheat per year. Originally, only two domestic mills, MINOLACS and Farisana, participated

in sales, but since the entry of Pembe in 2011, sales have been conducted by auction to the highest bidder.

Burundi depends on imports for nearly 100 percent of its wheat milling needs. Local wheat mills import about 40,000 MT per year to meet domestic demand for bread products. However, occasional shortages of foreign currency hinder the purchase of necessary raw materials. Although the country does produce some wheat - nearly 10,000 MT per year - this wheat does not enter into the value chain for industrially-milled wheat flour. Products from wheat flour do not compete with local staples like *ugali* and *ubuyi* because they go toward bread products that are mainly consumed as a quick breakfast food, or as a snack like *bignets*, in urban areas.

1.4.2 Wheat Flour

USAID-BEST does not recommend the monetization of wheat flour as it would compete against the growing wheat milling sector in Burundi.

1.4.3 Recommendations for Title II Programming

Future awardees could monetize 6,000 MT (15 percent of the current domestic import market) at the current import parity price (IPP) of US\$373 to generate US\$2,238,000.

Monetizing wheat grain would not negatively affect local production or marketing because 1) industrial mills import nearly 100 percent of their supply for wheat grain; 2) domestically produced wheat grain does not enter into the value chain for milled wheat flour; and 3) the market for domestically produced wheat products is different from the market for industrially milled wheat products. Further, the local milling sector appreciates monetization sales, which are done in local currency; this transaction obviates the need to secure hard currency to purchase goods for their pipeline. Given the difficulty securing foreign exchange, future Title II partners should make monetized goods available to all interested buyers; USAID-BEST recommends a two-round monetization format.¹² Provided that all interested buyers are able to participate, a monetization sale of up to 15 percent of the import market should not harm in-country production or marketing of wheat products.

¹² This transaction would invite all interested buyers to submit a bid in a first round, after which a second round would be held where interested buyers are invited to purchase at the highest bidding price from the first round. Maximum tonnages would be set by total recommended tonnage divided by the number of interested buyers. If not all interested buyers wish to purchase the maximum sales volume, then their requested volume would be subtracted from the total recommended tonnage, and the rest would be divided accordingly until total volumes are exhausted.

1.5. ADEQUACY OF PORTS, TRANSPORT, AND STORAGE

Being a landlocked country, Burundi faces certain logistic challenges, but private voluntary organizations (PVOs) have successfully used the Port of Dar es Salaam as the primary entrance for imported food aid and the Port of Mombasa as an alternate option. Burundi sufficiently maintains its internal road network so food aid delivery to remote locations can occur year-round without the need to pre-position food prior to the rainy season. Planned improvements to the ports and road infrastructure over the next few years should further ensure adequate delivery of food aid in future programs.

As always, awardees should submit proper paperwork to the GoB's Ministry of Foreign Affairs to avoid clearing delays and ensure that goods may be imported duty-free.

1.5.1 Ports

The Port of Dar es Salaam possesses the necessary capacity and equipment to handle large quantities of food aid for monetization and direct distribution. WFP and the current Title II implementing partner (CRS) are utilizing this port for their programs in Burundi and have reported relatively insignificant delays, damages, and losses. Future Title II implementing partners should consider the developments at the ports of Mombasa and Dar es Salaam because on-going infrastructure improvements could change the practicality of one port over the other. The Port of Mombasa has sufficient capacity to handle food aid consignments but, at present, it is not a practical alternative because of the extra distance to Burundi, multiple border crossings, and the associated costs of transport. Regulations governing the handling of genetically modified goods are also a concern for some Title II food aid commodities from Mombasa.

1.5.2 Transport

The Port of Dar es Salaam is the closest port to Burundi and the road transport network allows for deliveries in a reasonable period year round at competitive rates. Currently all food aid that arrives in Bujumbura from either Dar es Salaam or Mombasa arrives by road via Kobero or Kanyaru, respectively. Although only 1/3 of the roads are paved in Burundi, most of the major warehouses used by Title II partners are in centers serviced by paved roads. Final distribution storage facilities are mainly accessed via unpaved roads but these sites remain accessible throughout the year with no reports of pipeline breaks or a need to preposition commodities. The trucks used appear in good enough condition to transport food aid from port to warehouses in Burundi. Additionally, there are sufficient trucks of varying sizes to transport the food aid from primary warehouses in Burundi to the final distribution storage sites in the provinces.

1.5.3 Storage

Storage in the main centers, such as Bujumbura, Ngozi, and Ruyigi, appears adequate, but storage at final distribution points poses a greater challenge depending on the district. The current Title II awardee is using parish buildings for storage at these final distribution sites; however, there are also schools and clinics with some rudimentary facilities that may be upgraded into suitable storage facilities for limited quantities of food. Overall though, in-country storage is sufficient to handle large volumes of food aid coming into Burundi.



CHAPTER 2 OVERVIEW OF LOCAL MARKETS

Photo by Fintrac Inc.

Most Mondays and Thursdays, producers gather in this large market to sell their surplus. Traders from different parts of the country, some from as far as Bujumbura, source mostly beans and maize in this market. Karuzi, Burundi, August 2013.

2.1. INTRODUCTION

To inform future Title II programming, this chapter provides an overview of national food deficits, an analysis of local markets, and a detailed account of the markets for Burundi’s main staple commodities. USAID-BEST conducted desk research, interviewed key government officials, donors, and commercial stakeholders, and visited 18 local markets across the country during August 2013. Synthesizing all the information collected, this chapter concludes by offering implications for future Title II in-kind and complementary market-based food assistance programming.

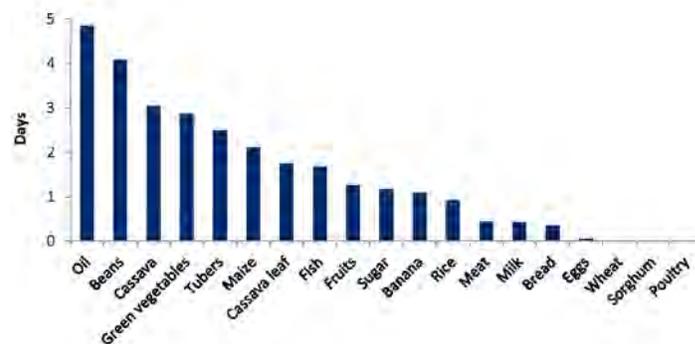
2.2. NATIONAL FOOD DEFICITS

This section presents a summary of national food consumption, crop production, and main changes in government institutions and policies to help explain the current national food security situation.

2.2.1 Food Consumption

Beans, bananas and plantains, cassava flour, sweet potatoes, maize flour, rice, vegetable and palm oil, and wheat grain are the most important foods for the average Burundian. Cassava flour transformed into *ugali* (a thick paste) is consumed every day, followed by pulses and oils.

Figure 1. Frequency of Food Consumption (days per week), 2013

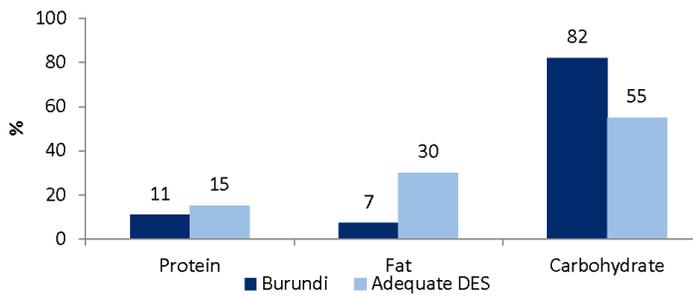


Source: WFP, Rapport de la Mission Conjointe d’Evaluation des Recoltes, des Approvisionnements Alimentaires et de la Situation Nutritionnelle, 2013A.

The typical diet is relatively diverse; despite this fact, energy consumption still falls below the minimum World Health Organization (WHO) requirement. Protein intake, almost exclusively from beans, is on average four points below the adequate amount. Fat consumption remains extremely low (on average 23 points below the adequate consumption) in spite of the daily intake of oil. However, carbohydrate consumption is

high mostly due to the popularity of cassava flour and tubers.¹³

Figure 2. Protein, Fat, and Carbohydrate Intake as a Percentage of Dietary Energy Supply (DES)



Source: Abrahams et al., 2011.

2.2.2 Crop Production

In 2012, the National Agricultural Survey (NAS) reported that main cereal production reached over 240,000 metric tons (MT), tuber production 2 million MT, bean and pea production 220,000 MT, and banana production 642,000 MT. Despite apparent gains and losses in production from 2011-12 poor data quality means possible errors with this projection. For example, in the case of bananas, from 2008-11, production data did not reflect the negative effect of diseases and pests attacking banana crops; similarly, the data does not accurately reflect the increase in production between 2011-12. In the case of cassava, the data also reflect a great spike in production, which most likely represents better data collection rather than actual production increases. The table to the right presents cereal equivalent production volumes for the year 2005 and from 2010 until the projections for 2013.

Table 1. Cereal Equivalent Crop Production ('000 MT), 2005-12

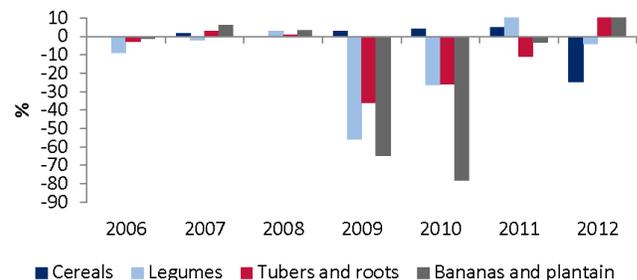
	2005	2010	2011	2012	2013*
Cereals					
Maize	123,407	126,412	128,483	140,536	96,893
Wheat	7,756	9,034	9,787	4,196	403
Rice	67,947	83,019	91,415	64,620	616
Sorghum	77,231	83,023	86,854	31,527	5,842
Tuber					
Cassava	214,206	201,551	159,744	1,244,607	600,938
Potato	32,755	31,532	8,842	47,841	65,617
Taro	9,912	3,114	18,316	92,973	31,155
Sweet Potato	25,534	9,320	299,902	659,593	228,167
Yam	866,605	303,432	3,108	6,309	132
Legume					
Bean	630,734	187,901	200,673	205,944	76,211
Pea	60,786	18,480	31,408	16,719	12,068
Fruit					
Banana	1,615,635	136,564	131,999	1,184,075	642,406

* Season A (September 2012-January 2013)

Source: Département de la Statistique et Information agricole, Ministère de l'Agriculture et de l'Elevage; Rapport ENAB 2011-2012; Enquête Nationale Agricole du Burundi 2012-2013, Résultats de la saison A.

Despite data inaccuracies, one of the greatest variations in production occurred during the 2009-10 and 2010-11 production seasons when tubers and roots decreased by as much as 35 percent, and bananas and plantains by more than 70 percent. Additionally, cereal production (with the exception of maize) decreased considerably from 2011-12 (see figure below).

Figure 3. Food Crop Production Year-on-year Variation (%)



Source: Calculated by USAID-BEST.

Experts and the Government of Burundi (GoB) agree that reliance on subsistence agriculture, population pressures, sudden climatic variations, an increase in plant pest and diseases, and overall poor farm management are among the most important factors limiting food availability.¹⁴

An estimated 90 percent of cultivated land in Burundi is for food crop production, and households (HHs) consume 80

¹³ Abrahams, Zulfa, Mchiza, Z., and Steyn, N., 2011, "Diet and mortality rates in Sub-Saharan Africa: Stages in the nutrition transition", BMC Public Health, 11.

¹⁴ MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*; MINAGRIE, May 2013, *Enquête Nationale Agricole du Burundi 2012-2013 Résultats de la Saison A*.

percent of all food crops produced (less than 20 percent is traded in markets considering post-harvest losses). The situation worsens considering that on average more 1.2 million rural families produce food on plots of about 0.5 hectares.¹⁵

Increasing population adds more pressure on land use and tenure. Conflicts between customary and written law continue to be unresolved in most parts of the country, causing uncertainty about land ownership and limiting farm investment.¹⁶ In addition, since 2002, more than 500,000 people have returned to rural areas; this migration poses additional challenges to the reintegration of these families into agricultural communities and exacerbates land access issues.¹⁷

Agricultural production depends almost exclusively on rainfall; thus, sudden climatic variations (e.g., unexpected rains during the dry season and dry spells during the growing season) can greatly alter production. Farm management remains rudimentary. Three out of four farmers do not use adequate erosion control, less than 50 percent of farms use organic manure for fertilizers, and just above 30 percent of farmers apply some chemical fertilizers. Lastly, uncontrolled plant diseases, which in recent years have affected more crops considered key for HH food security (e.g., cassava and banana), all contribute to extremely low productivity in Burundi.¹⁸

According to MINAGRIE, cereal equivalent food production decreased by more than 40 percent since 2000.¹⁹ Additionally, MINAGRIE and WFP estimated that in 2013 per capita food deficit had already reached 44 kg per year by June 2013, which is alarming considering that 2013 is a normal production year.²⁰

Some regions in Burundi benefit from three agricultural seasons; this environment represents an opportunity for increasing much needed food availability. The figure below highlights different agricultural seasons and the most important lean season (September-December).

15 MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*.

16 Uncertainty about ownership limits investments because farmers are not sure whether they will keep the land they are farming or not. In addition, they are less likely to invest in good environmental practices.

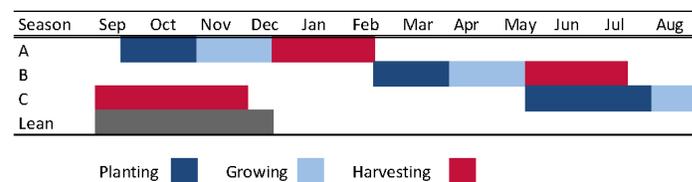
17 MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*.

18 MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*; MINAGRIE, May 2013, *Enquete Nationale Agricole du Burundi 2012-2013 Resultats de la Saison A*.

19 MINAGRIE, Ninganza, L., et al, February 2011, *Evaluation des Recoltes, des Approvisionnements Alimentaires et de la Situation Nutritionnelle Saison 2011-A*.

20 MINAGRIE, 2013, *Rapport de la Mission Conjointe d'Evaluation des Recoltes, des Approvisionnements Alimentaires et de la Situation Nutritionnelle*.

Figure 4. Agricultural Seasonality



Source: Created by USAID-BEST, using FEWS NET and CFSVA 2008.

Countrywide, during Season A farmers produce a diverse array of crops while the volume produced increases in Season B. Although Season C volume and commodities produced are not as important, these products can represent an integral source of food in some areas during times of shortage. Year-round production is possible but production percentages are different across provinces and vary greatly from year-to-year. For example, in Bubanza, Bujumbura, and Cibitoke, Season A can contribute more than 50 percent of total production while Season B contributes less than 50 percent.²¹

Table 2. Seasonal Crop Production

Season	Main Crops	Production (%)
A	Maize, Beans, Potato, Sweet Potato, Peanuts, Soybeans, Banana, Sorghum	35-40
B	Beans, Potato, Sweet Potato, Vegetables	50-65
C	Maize, Beans, Potato, Rice, Sweet Potato	10-15

Source: Created by USAID-BEST, based on field interviews.

QUALITY OF DATA IN BURUNDI

Until 2011, all the information regarding production in Burundi was jointly estimated by the Ministry of Agriculture and Livestock (MINAGRIE), the United Nations Food and Agriculture Organization (FAO), WFP, and the United Nations Children's Fund (UNICEF) for seasons A and B and by the Department of Statistical and Agricultural Information (DSIA) for Season C. The two main issues with this methodology were 1) the sample size was relatively small and not representative (less than 1,200 households (HHs) in total), which affected production estimations; and 2) lack of consistency in terms of agencies collecting data. In 2012, MINAGRIE conducted the NAS based on a large and representative sample size (more than 2,500 HHs randomly selected around the country), which helped improve the quality of data and reporting. It is expected MINAGRIE will continue with this statistical approach so the statistical estimation of production in Burundi may improve in the future.

21 WFP, December 2008, *Comprehensive food security and vulnerability analysis*.

2.2.3 Food Access

Although most HHs produce their own food, what they produce is generally not enough and most people depend on markets to access food depending on the season and the region. Food purchases occur most often from September-December, coinciding with the main agricultural lean season, and then again from February-April. The food that households produce is generally the main source of food from April-September.²² Similarly, market dependency is generally higher in high-altitude areas and the central part of the country (in some central areas as high as 60 percent).

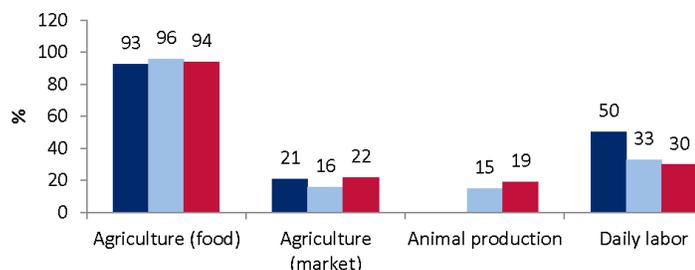
Figure 5. Seasonal Sources of Food

Sources	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sold												
Purchase												
Own production												

Source: Created by USAID-BEST, using CFSVA 2008.

However, in addition to limited food availability from local production, extreme poverty remains a major obstacle to food access in Burundi. It is estimated that agriculture represents between 80 to 90 percent of the total country GDP. In rural areas, more than 90 percent of HHs depend on agriculture (sales of agricultural products and labor) as a main source of income, but the subsistence nature of these activities does not provide enough income for HHs around the country.

Figure 6. Main HH Activities in Rural Areas (% HHs)



Source: Created by USAID-BEST, using CFSVA 2008 and FSVA 2012.

In 2008, WFP reported that the annual income was around Burundian Franc (BIF) 300,000, approximately US\$250, and more than 30 percent of the population reported incomes of less than BIF 100,000 per year (around US\$80).²³ As of May 2013, salaries including benefits (e.g., food) reportedly ranged from BIF 600-1,500 per day (US\$0.40 to US\$1 per day), on

²² WFP, December 2008, *Comprehensive food security and vulnerability analysis*.

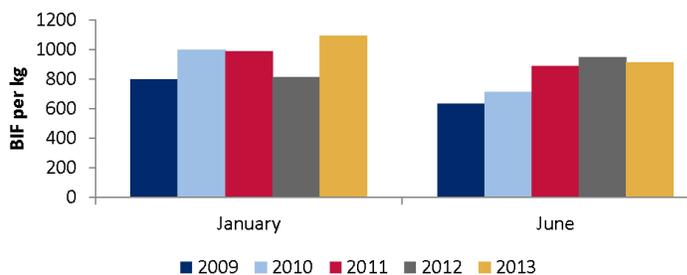
²³ WFP, December 2008, *Comprehensive food security and vulnerability analysis*. According to data from the World Bank, in 2012 nominal per capita GDP reached BIF 362,000, which when accounting for exchange rate and inflation, still represented around US\$250 per year. Annex 1 includes a summary of main economic indicators.

average less than US\$25 per month.²⁴ In food equivalent terms, a representative family currently can only afford to buy 1/3 of a bag of beans per month.

Prices. In general, prices are low during harvest time and increase when the lean season begins. The availability of imports, whether formal or informal, usually helps to keep price variations to a minimum during the lean season. However, in recent years, high food price inflation rates have created an additional burden for Burundian HHs. In the average family, food represents more than 60 percent of HH expenditures, meaning that even a small increase in food prices can negatively affect HH disposable income.

Since 2010, food prices have varied considerably from year to year. According to FEWS NET, the largest increase was observed in January 2013 when food inflation reportedly reached 25.2 percent. While food prices generally increase every January,²⁵ the variation was relatively greater than previous years. In addition, for certain commodities, prices remained exceedingly high by July 2013 (harvest time), reportedly ranging from 16-45 percent higher than in the past.²⁶ The figure below presents an example of this trend by examining the retail price for beans since 2009.

Figure 7. Bujumbura Bean Retail Price (BIF per kg), January and June 2009-13



Source: Created by USAID-BEST, using data from MINAGRIE.

2.2.4 Government Policies

The GoB and its technical and financial partners have developed various strategies and programs since 2006 to increase agricultural productivity and improve overall performance (see Annex 2). However, the expected goals of these initiatives have not been realized primarily due to the overall lack of available financial resources. To address this constraint, the GoB through MINAGRIE initiated the National Plan of Agricultural Investment (PNIA, *Plan National D'Investissement Agricole*) in 2009 to better coordinate financial resources for the development of value chains and agri-businesses.²⁷

²⁴ WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

²⁵ In January, food prices generally increase because a) high demand for food during Christmas and New Year's depletes the food stock; b) the volume harvested in season C is not significant enough to supply the increased demand around the end of the year, and the volume harvested in season A is low and most likely consumed at the HH level first before it reaches markets; and c) different agro ecological characteristics across regions means inconsistent availability around the country.

²⁶ FEWS NET, July 2013, *Burundi Remote Monitoring Update July 2013*.

²⁷ MINAGRIE, 2013, *Plan National d'Investissement Agricole (PNIA) 2012-2017*.

The PNIA intends to assist the National Agricultural Strategy and the Strategic Framework for Poverty Alleviation. As a result, in 2012 the government increased the share of the public budget invested in agriculture by 11.8 percent. Moreover, the GoB is giving priority to staple crops (bananas, cassava, potatoes, sweet potatoes, beans) and plans to diversify production by providing more support to palm, soy, sunflower, and groundnut oil as well as sugarcane, wheat, maize, barley, sorghum, rice, and livestock products (milk and meat).²⁸ Further, as part of the PNIA, the government also provides fertilizer subsidies to all farmers that covers 50 percent of the cost. Although this initiative is key to improving productivity, farmers and agri-dealers agreed that even with these subsidies fertilizer remains costly.

Provided that this funding for agricultural development continues to grow and institutions dealing with the agricultural sector are able to coordinate efforts, production could experience a considerable increase in the near future. Yet, despite such efforts, in June 2013 the GoB imposed a new food tax on imported products that has upset traders and consumers who claim that this measure increases food prices, which limits supply in local markets and prohibits poor consumers from making purchases, especially during lean seasons. Additionally, the assessment of these taxes are based on product appearance rather than country of origin, which can lead to confusion when Burundian farmers travel across the border to farm. Consequently, in borders areas, such as Kayogoro (Makamba) and Giharon (Rutana), where people commonly produce yellow and red beans, government officials consider these commodities as imports simply because yellow varieties are usually grown in Tanzania. Similarly, officials automatically consider unbroken rice grain as imports from Tanzania and tax producers accordingly, even if the product was grown in Burundian soil.

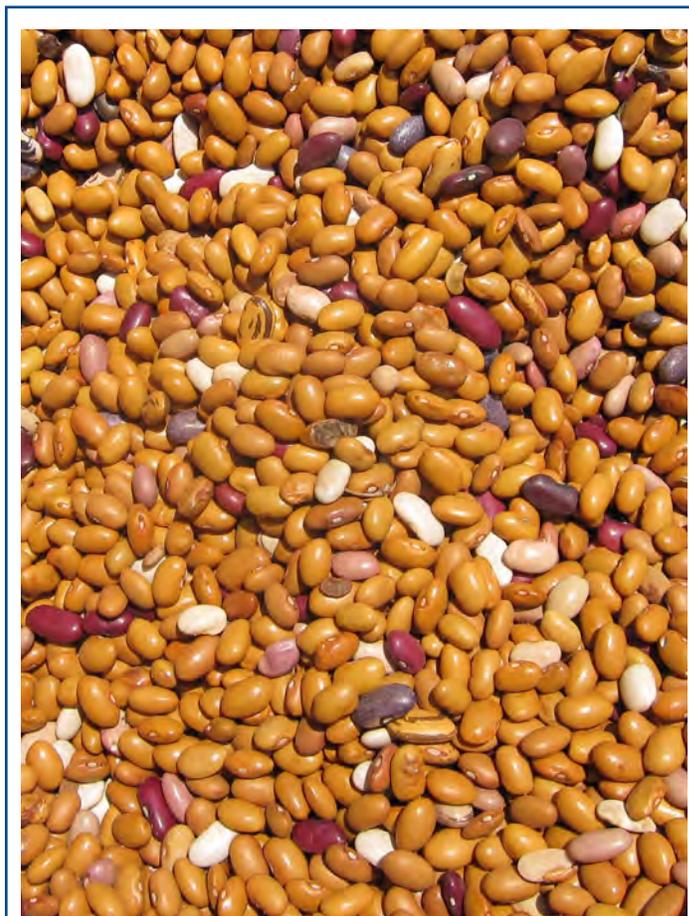


Photo by Fintrac Inc.

Yellow beans in the Kinindo area market in Bujumbura are pictured here. Yellow beans are more expensive than other varieties, and are often only bought by high-income consumers. Bujumbura, Burundi, August 2013.

2.3. LOCAL FOOD DEFICITS

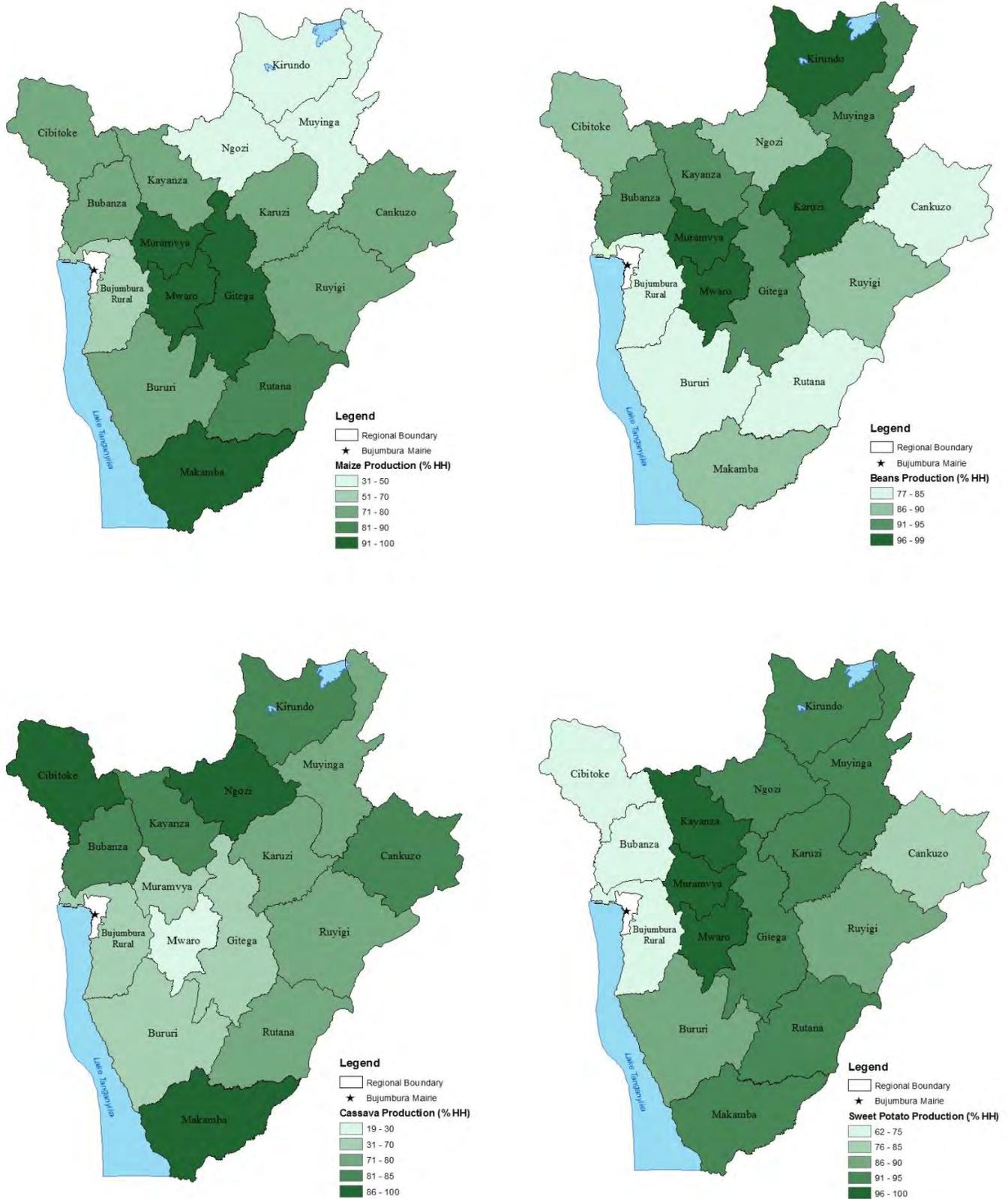
At the national level, Burundi is considered a food deficit country. However, depending on the crop, the area, and the season, local food self-sufficiency can be attainable. This section briefly outlines local food deficits and surpluses.

As previously mentioned, based on frequency of consumption the most important crops are cassava, bananas, beans, potatoes, and sweet potatoes. Cassava production is generally best produced in lowland areas such as in the south and in the Humid Plateaus (HP - areas in the provinces of Gitega, Kayanza, Muramvya, Mwaro, and Ngozi),²⁹ while high volumes of beans, bananas and potatoes are grown in the northern parts of the country (Gitega, Karuzi, Kayanza, Kirundo, Muyinga, and Ngozi). The maps below highlight 2012 production share by province for selected crops.

28 GoB, August 2012, *Burundi: Poverty Reduction Strategy Paper II*.

29 Please refer to Annex 3, section A3.6 for a complete depiction of livelihood zones in Burundi.

Figure 8. Major Staple Crop Production Share (%) by Province, 2012



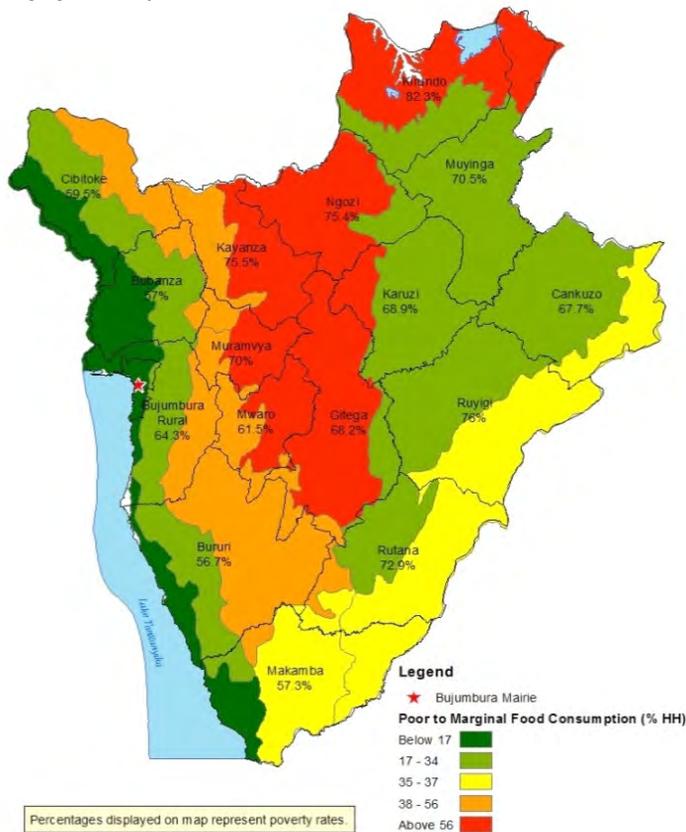
Source: Created by USAID-BEST, using data from MINAGRIE.

Although most staple crops are produced all over the country, an extremely high proportion of people living in poverty with small average landholdings means that most HHs across the country are susceptible to food deficits almost every year.

Poverty rates are the highest (above 75 percent) in Kayanza, Kirundo, Ngozi, and Ruyigi. Similarly, these areas show some of the highest proportion of HHs who reportedly have poor or marginal food consumption.³⁰

Although widespread poverty is an issue across Burundi, not all areas suffer from poor to marginal food consumption. In some areas where poverty is acute, such as in Muyinga and Ruyigi, local production capacity coupled with imports from neighboring provinces and countries satisfy local demand for food. The main areas suffering from widespread poverty and poor and marginal food consumption are in the center of the country (HP) and the northern province of Kirundo.

Figure 9. Food Consumption (% of HHs) and Poverty Rates (% of population)



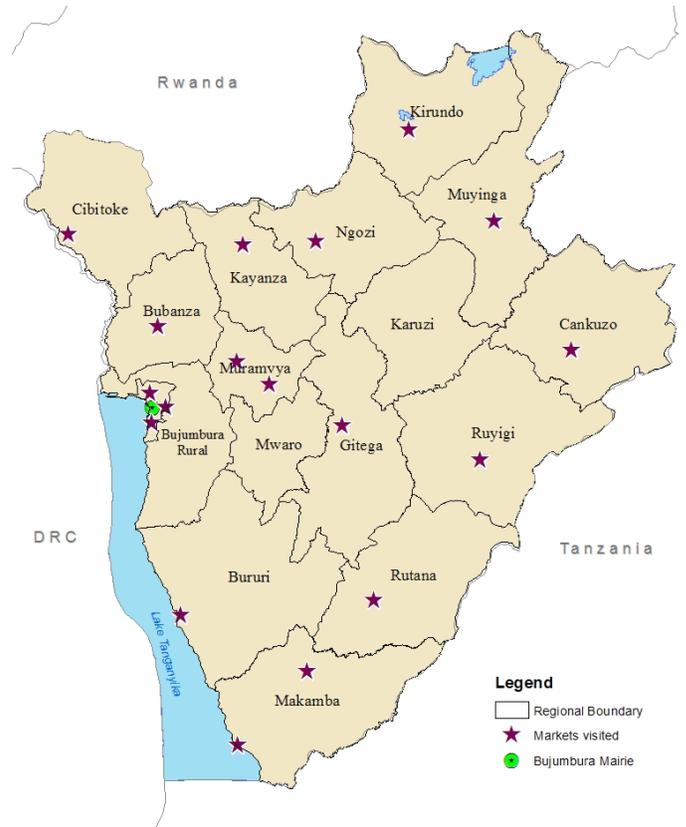
Source: Created by USAID-BEST, using data from WFP 2013 and IMF 2009.

³⁰ According to official GoB data, the last time poverty was assessed was in 2006. In that survey, the poverty line was approximately BIF 627 per day per adult equivalent for urban areas, and BIF 525 per day and per adult equivalent for rural areas. GoB, March 2009, *Burundi: Poverty Reduction Strategy Paper-Annual Progress Report*.

2.4. FINDINGS FOR MARKET SITES

This section presents the rationale for the selection of markets visited, a brief market description, and a description of food aid commodities found in some markets around the country. The map below highlights all the areas visited during the field research in August 2013.

Figure 10. Map of Markets Visited, August 2013



Source: Created by USAID-BEST, based on field visits in August 2013.

USAID-BEST selected markets for site visits based on size and volume of major commodities traded; specifically, the analysis focuses on those markets selling cassava flour, bananas, beans, rice, maize meal, wheat grain, potatoes (Irish), and vegetable oils (including palm oil). The team visited 18 markets across 17 provinces in August 2013 and interviewed large- and small-scale wholesalers, retailers, and farmer/traders.³¹ The following paragraphs briefly describe the markets visited in chronological order of USAID-BEST market trips.

Bujumbura Mairie. The largest market in the capital is Chez Sion; located on city limits, it was developed as an alternative market to the former central market, which has not been restored since it was destroyed by fire in January 2013. USAID-BEST also visited a midsize market in the Kinindo area that serves a relatively well-off neighborhood and the Jabe market because of its location in a highly populated neighborhood.

³¹ In this report, farmer/traders refers to producers who at the time of the team market visits were selling their products alongside with retailers and wholesalers in local markets.

Here, wholesalers and retailers sell a wide range of domestic and imported products, including cereals, salt, rice, sugar, fruits and vegetable, vegetable and palm oils, dried beans, different flours (sorghum, millet, wheat, and cassava).

Muramvya. The central market of Muramvya divides into two main areas: a retail market operating mostly on Wednesdays, Fridays, and Sundays, and a daily wholesale section comprised of shops along the main road. Another market in this town, Gitaramuka, is a producer's market that operates on Mondays and Thursdays from which retailers and wholesalers source local products, such as beans and maize.

Gitega. The central market of Gitega is a large-scale retail and wholesale market. Local and imported products are sourced and transported from this market across Burundi. In the main building, retailers and wholesalers cluster in different sections based on the crops they sell. Large-scale wholesalers usually rent shops near the main building. Gitega is a deficit market because local farmers cannot supply enough production to satisfy the demand.

Ruyigi. The central market of Ruyigi operates every day, but the most important market days are Wednesdays, Fridays, and Sundays. In general, retailers share common spaces while wholesalers rent shops with some limited storage capacity. Maize meal, beans, and rice are usually imported from Tanzania.

Cankuzo. The main market building, constructed with support from the Chinese government, has been maintained by the commune. The retail market is open every day. Due to the large number of low-income consumers, sales are limited and generally farmers have a harder time selling their products. Some crops, such as yellow beans, are not available in this market because of high prices.

Kirundo. The retail market operates daily, but larger volumes are traded usually on Tuesdays, Fridays, and Sundays when farmer/traders, wholesalers, and retailers bring most of their products to this market. Since the area of Kirundo is the main source for beans in Burundi, they are transported from the Kirundo market all over the country.

Ngozi. Ngozi is an important wholesale market from which products, especially potatoes and beans, are transported all over the country. The central market is a relatively new building that has been reconstructed after a fire destroyed an estimated 1/3 of the building in 2006. Small retailers are located at the entrance of the building and wholesalers on the peripheries where they can rent shops with some storage capacity. The city administration has assigned banana traders (the majority of whom are women) to a location farther from the main building that is more difficult to access; traders did not seem to understand the reason for their distant placement from the market.

Kayanza. This market is not housed in a building like other central markets and operates mostly on open spaces along

National Road 6. Kayanza market also serves a predominantly low income population. Local farmers cannot supply production year round and imports from neighboring provinces and from Rwanda are important food supply sources.

Cibitoke. The market of Rugombo at Cibitoke operates daily with the most sales on Wednesdays and Sundays. This market is an important source for rice, cassava roots, and bean products. Before 2000, it was also an important market for bananas, but in recent years imports from Rwanda have dominated the trade because of limited production.

Bubanza. Large volumes of cassava are traded at this central market. This market was the only one observed in which dried root production reaches this market and are processed into flour for different rural markets in the area.

Bururi. The market of Rumonge is a traditional construction with a large number of wholesalers and retailers. The market operates daily. The area around this market is the main source for palm oil. Other important products include cassava, fish, maize, and rice. Imports from Tanzania are usually available year-round in this market.

Makamba. The market of Nyanza Lac, housed in a relatively new building, is open daily but heavy commodity trade occurs on Wednesdays and Sundays. Although different types of products are sold at this market, most of the activity centers around palm oil and imports from Tanzania (beans, bananas, and maize).

The central market of Makamba, also located in a newly constructed space, is an important source for locally produced potatoes from Kayogoro (Makamba). Heavy market trade usually occurs on Wednesdays and Sundays.

Rutana. This market primarily sources rice from Giharo in Rutana, Kinyinya, and Nyabitsinda in Ruyigi. Additional products are imported from other regions in Burundi or from Tanzania and Rwanda. Market activities occur on Wednesdays, Fridays, and Sundays out of a recently constructed building.

Muyinga. This market includes a diverse array of goods imported from Tanzania. Traders are often able to smuggle goods across the border without paying duties or fees (locally known as importing "by fraud"). However, the importance of this market has declined as many goods entering legally into Burundi from Tanzania now travel directly from the border facilities to the market in Ngozi.

USAID-BEST found food aid for sale in different markets visited. In all markets, traders agreed that quantities sold were relatively small and no wholesaler would sell food aid. Rather, individual beneficiaries sell products in the market. In Bujumbura, a trader selling vegetable oil reported that he sourced the good directly from food aid beneficiaries in the Democratic Republic of Congo. In all other markets, products were from local programs. The table below summarizes the type of food, the organization

listed on the package label of the product and the number of shops found selling food aid.

Table 3. Food Aid Availability by Markets, August 2013

Market	Type of Food	Organization	Number of shops found selling food aid
Chez Sion (Bujumbura Mairie)	Vegetable oil	USAID	1
Kirundo	Cornmeal and vegetable oil	USAID	3
Kayanza	Cornmeal	USAID	2
Nyanza-Lac (Bururi)	Vegetable oil	USAID, WFP	2
Makamba	Cornmeal and vegetable oil	WFP, UKaid, USAID	1

Source: Created by USAID-BEST, based on field visits in August 2013.

Demand for food aid commodities was variable depending on the market and the commodity. In Bujumbura and Kirundo food aid vegetable oil was more expensive than any other oil in the market. According to traders, high prices and general dislike for the product prevented them from selling more volumes. In addition, prices were relatively higher than other oils. For example, in Bujumbura and Kirundo, a 4 liter (lt.) can of vegetable oil costs BIF 3,750 per lt. (BIF 15,000 per 4 lt. can) whereas the local brand Coki was BIF 3,000 per lt. (BIF 15,000 per 5 lt. container). In the markets of Nyanza-Lac and Makamba, unlike in Bujumbura and Kirundo, people preferred USAID vegetable oil despite its relatively high price, and it was more demanded than other refined oils in the market. As for cornmeal, in all markets the price was the same or slightly higher than local products.

2.4.1 Shared Market Characteristics

Central markets located in provincial capitals were in relatively new buildings and usually well maintained (e.g., they were relatively clean, had access to water, and were covered with a roof) compared to traditional and rural markets which operate either along a main road, or in open spaces.

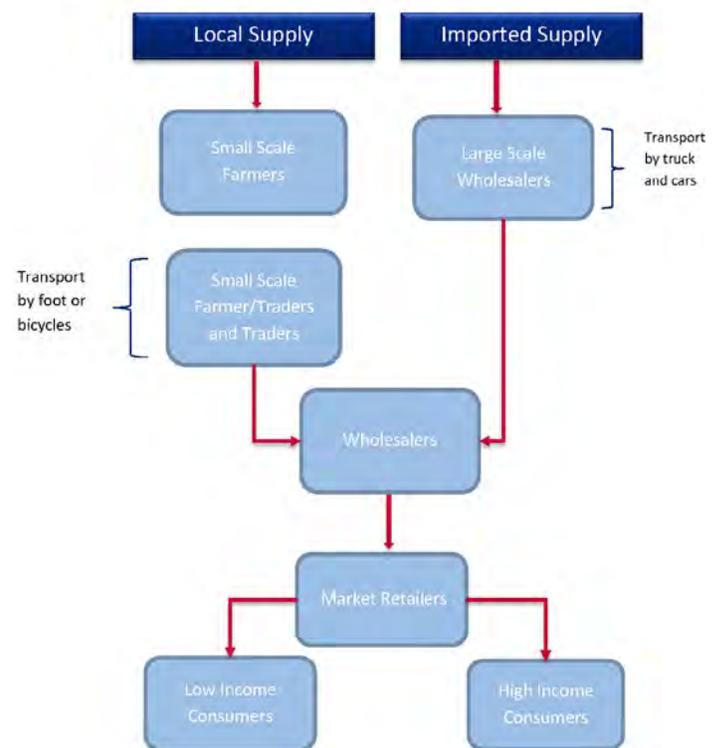
All markets were divided into sections corresponding to commodities. The exceptions were the market of Ngozi, which had banana growers in a different part of the city, and Kayanza, where stalls and shops were spread out along a main road.

Small-scale traders and farmer/traders usually transport their products either by foot or bicycle, which means they can only handle small volumes. For example, banana traders were able to transport up to 10 bunches in one trip and potato traders 100 kg. Consequently, medium-scale wholesalers work with collectors in rural communities to transport products either to the local market or to more distant markets. Usually, these traders collaborate with other traders to rent trucks or cars so as to cut down on transportation costs. However, these traders

do not work together to set prices or collectively purchase large volumes.

Large-scale wholesalers focus mostly on imported products and aim to first target the Bujumbura market where most high-income consumers reside; secondly, these wholesalers focus on the markets of Ngozi and Gitega because these cities are centrally located to facilitate intra-province and cross-border trade. Large-scale wholesalers handle commodities such as yellow beans and rice (mostly from Tanzania), and maize meal from Uganda. The figure below depicts a common value chain share in most markets in Burundi.

Figure 11. Value Chain for Local and Imported Products



Source: Created by USAID-BEST, based on information collected from local markets visits in August 2013.

2.5. COMMODITY MARKETS

This section outlines the structure, conduct, and performance of main commodities considered staple foods that are relevant for food security programming. USAID-BEST based the selection on whether the products were a) widely consumed across the country; b) relevant for Food For Peace food aid distribution, and c) generally traded in different markets and across regions. The analysis covers cassava, bananas, beans, maize, wheat, rice, palm oil, and potatoes in order of prioritization for future USAID programming.

2.5.1 Cassava

Overview of demand and supply. More than 70 percent of the population consume cassava, and some HHs eat this product three times a day. Cassava leaves are eaten as relish (vegetable accompanying food), cassava flour as hot paste (*ugali*) or cold porridge (*chikwange* or *ubuswage*), and boiled cassava (sweeter varieties).

Cassava-derived products are obtained from local or HH level milling. In the case of cassava flour, different fermentation and drying techniques produce distinctive qualities. For example, *inyange* is a darker color variety, while *ikivunde* is generally whiter in color and obtained after a wet fermentation, which washes away some of the nutrients. *Akambaranga* flour, a specialty of Kayogoro (Makamba) and Tanzania, is obtained by peeling the root, removing the stem from its center, and drying afterwards. In general, consumers prefer *ikivunde*, followed by the darker *inyange*, and lastly *Akambaranga* flour.

Cassava ranks third in terms of volume produced. In some areas where cassava is widely grown, all meals contain at least one cassava product. During lean season, consumers generally substitute cassava flour for sweet potatoes and maize meal. Also at this time, imports at border areas represent an important source despite higher prices.

Although the low land areas in the province of Kirundu (Bugesera natural region)³² and parts of Cankuzo, Makamba, Rutana, and Ruyigi provinces (Moso natural regions) offer the best conditions for cassava growth, the main production areas in 2012 were Gitega, Cibitoke, Bujumbura Rural, and Makamba. Despite resiliency to climatic shocks and disease, cassava yields have suffered due to sudden variations in weather and prolonged disease attacks. Since 2011, overall production has seen sudden increases and decreases from one season to the next. A new cassava disease, Cassava Brown Streak Disease (CBSD), emerged in 2012 and destroyed trees mostly in low land areas; in some cases losses reached 100 percent.

A large number of small-scale traders purchase cassava production from subsistence farmers and sell to medium-size wholesalers (collectors) who then deliver to markets in different cities. Collectors generally sell to retailers who then distribute to consumers. Consumers buy either dried roots or cassava flour. Large-scale wholesalers usually import cassava flour from Tanzania and Uganda. Markets for imported flour are more important during the main lean season (October-January). Large-scale wholesalers generally rent 10-30 MT trucks and spend a week collecting products in different areas in Burundi or Tanzania.

Although most trade is confined to local markets, more than 30 large-scale wholesalers collect and distribute cassava daily from the market in Gitega to cities across Burundi. As previously mentioned, due to its central location the market of Gitega

32 Please refer to Annex 3.6 for a map showing the natural regions in Burundi.

CASSAVA VIRUSES

After the cassava mosaic virus virtually destroyed all production and plants across the country in 2002, significant interventions were made to ensure self-sufficiency in cassava production. First, Burundi joined the Regional Cassava Initiative in Support of Vulnerable Smallholders in Central and Eastern Africa group, financed by the European Union and executed by the Food and Agriculture Organization (FAO) since 2005. Second, it joined the Great Lakes Cassava Initiative implemented by Catholic Relief Services. After joining these initiatives, priority was given to the multiplication and diffusion of cassava cuttings resistant or at least tolerant to cassava mosaic. In 2012-13, FAO distributed varieties that were resistant to the cassava mosaic virus, helping to boost production. However, the new varieties have higher humidity content making it difficult to dry, which caused producers to revert to traditional varieties. Evaluating the effect of these interventions is difficult given the lack of reliable data.

represents an important source for cassava supply year round. When local production is not sufficient, these traders switch to imports from neighboring countries. The table on the next page summarizes the most important cassava marketing characteristics.

Informal imports are particularly important to provide enough supply and a cushion for sudden price variations. In some border towns, such as in the commune of Kayogoro in Makamba Province, about 80 percent of the cassava available in markets is actually cultivated by Burundians who cross the Malagarazi River into Tanzania, where land is available and soils are more fertile. However, as noted previously, the GoB includes these farmer/traders in the tax imposed on imported food; such a policy has affected the trade between some communes in Bururi, Makamba, and Bujumbura.

Despite important gains in production, Burundi is not self-sufficient in cassava production and only a handful of production regions can supply enough for their own population. Dried roots and flour are generally not stored mostly because of the high demand for these products. For example, in Bubanza, which is considered a small market, traders reported that 2-3 MT of dried cassava takes about a week to two weeks to be fully consumed. In Gitega, a wholesaler, who described himself as a medium-scale trader, reportedly delivered 15 MT of dried cassava roots each week to four retailers.

Unlike dried roots and flours, fresh cassava roots are not traded outside local production areas. In general, fresh cassava is sold in bunches of three-five roots and prices vary. Similarly, cassava leaves and the cold cassava paste known as *ubuswage* were not abundantly available in most markets because rural HHs tend to prepare this product with their own production alone.

Table 4. Cassava Marketing Characteristics by Province, August 2013

Province	Market	Supply source	Transportation type	Connected to wholesalers
Bujumbura (Mairie)	Kinindo	Kayogoro and Nyanza-Lac	Trucks	Yes
Bujumbura (Mairie)	Chez Sion	Kayogoro and Nyanza-Lac	Trucks	Yes
Muramvya	Rutegama	Collected locally	On head, bicycles	No
Gitega	Central market	Collected locally	Bicycles and Trucks	Yes
Ruyigi	Central market	Inyange and Ikivunde flour collected locally. Akambaranga flour from Tanzania	On head, by bicycles, trucks	Yes
Cankuzo	Central market	Collected locally	On head, bicycles	No
Kirundo	Central market	Collected locally	On head, bicycles	No
Ngozi	Central market	Collected locally	Bicycles, trucks	Yes
Kayanza	Central market	Collected locally and from Uganda	Bicycles, trucks	
Cibitoke	Rugombo	Collected locally and from Kayogoro	Bicycles, and trucks	Yes
Bubanza	Central market	Collected locally and from Kayogoro	Bicycles, and trucks	Yes
Bururi	Rumonge	Collected locally and from Kayogoro	Bicycles and trucks	Yes
Makamba	Nyanza-Lac	Collected locally and from Kayogoro	Bicycles and trucks	Yes
Makamba	Central market	Collected locally	On head, bicycles	Yes
Rutana	Central market	Collected locally	On head, bicycles	Yes

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

Market performance. In all markets visited, the difference between retail and wholesale prices oscillated between BIF 50-70 per kg. For example, dried root prices range from BIF 200-300. Similarly, cassava flour price margins were relatively low in all markets, between 50-100 per kg. Imported flour was around BIF 500-600, while local flour ranged from BIF 450-650. The most important variation occurs from beginning to end of harvest season. Prices are generally low from July-October and start to increase after October.

Table 5. Cassava Flour Price Range (BIF/kg) by Selected Markets, August 2013

Province	Market	Retail price (BIF/kg)
Bujumbura (Mairie)	Kinindo	800-1,200
Bujumbura (Mairie)	Chez Sion	800-1,200
Muramvya	Rutegama	600-650
Gitega	Central market	300-500
Ruyigi	Central market	600-800
Cankuzo	Central market	600-700
Kirundo	Central market	600-1000
Ngozi	Central market	450-600
Cibitoke	Rugombo	700-1,000
Bubanza	Central market	600-900
Bururi	Rumonge	600-650
Makamba	Nyanza-Lac	700-800
Makamba	Central market	500-600
Rutana	Central market	500-650

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

In general, cassava flour retail markets tend to be integrated.³³ From 2005-13, prices in markets for which data are collected show strong correlation coefficients (higher than 50 percent). The only exception was the pair Ruyigi-Bujumbura, which reports a coefficient of 34 percent. This information is consistent with interviews during the field visit. Wholesalers and traders explained that given high transportation costs they need to communicate before moving products from one area to the next. In addition, given their already thin marketing margin, they usually would not engage in trade unless there is a strong price incentive. The table below reports all the coefficients for different markets.

Table 6. Price Correlation for Cassava Flour, 2005-13

	Bujumbura	Ngozi	Kirundo	Muyinga	Gitega	Ruyigi
Bujumbura	1.00					
Ngozi	0.66	1.00				
Kirundo	0.55	0.84	1.00			
Muyinga	0.82	0.91	0.81	1.00		
Gitega	0.57	0.89	0.87	0.87	1.00	
Ruyigi	0.34	0.75	0.79	0.70	0.86	1.00

Source: Calculated by USAID-BEST, based on data from FAO.

³³ Integration is defined as a set of markets that share common long-run price information, i.e., the degree to which price changes in one market are reflected in another market. The higher the correlation coefficient, the more integrated markets are with one another. Gonzalez-Rivera, Gloria and Helfand, S. M., 2001, "The Extent, Pattern, and Degree of Market Integration: A Multivariate Approach for the Brazilian Rice Market", *Amer. J. Agr. Econ.*, 83..

2.5.2 Bananas

Overview of demand and supply. Burundians consume bananas daily either boiled (eaten with beans, vegetables, and meat), sautéed, or fresh. Often, bananas serve as a breakfast item. Bananas are also processed into a local wine known as *urwarwa*. Socially, banana wine represents a must-serve drink during family ceremonies and meetings. At the communal level, bananas represent an important source of revenue; it is estimated that communal taxes on banana alone generate around BIF 2.5 billion each year.

In volume terms, bananas are the most produced crop in Burundi. Bananas cover around 1/4 of the country and are a main cash crop for farmers.³⁴ Sixty-five percent of banana production goes to wine while the remaining 35 percent is for food consumption. In some areas, such as Makamba, more than 90 percent of production is used exclusively for wine.

BANANA DISEASES

Since 2008, some areas in Burundi have experienced a tremendous decline in banana production due to different diseases. Currently, the most damaging diseases are:

- A) Banana Bunchy Top Disease (BBTD), a virus transmitted by the *Pentalonia nigronervosa* aphid that has attacked plants mostly in Bujumbura, Bubanza, Cibitoke, Bururi, and Makamba. In areas attacked by BBTD, banana plants did not yield production.
- B) Banana Xanthomonas Wilt (BXW), a bacterial disease which has spread almost all over Eastern Africa, is prevalent in Burundi; this bacteria attacks mostly the locally grown varieties and causes the plant to yield no fruit.
- c) Other diseases include black and yellow Sigatoka, *Fusarium*, leaf mold, anthracnose, and leaf blight. In addition, pests such as weevils and nematodes contribute to the decrease in banana yield.

The Agro-Pastoral Productivity and Markets Development Project (Projet de Productivité et de Développement des Marchés Agricoles) working with the Initiative of Highly Indebted Poor Countries (Initiative en Faveur des Pays Pauvres et Très Endettés) introduced the Fhia 17 seed variety from Tanzania which is resistant to BXW. The distribution started in Muyinga, and it will be expanded to Ngozi and Karuzi.

Production volume remains difficult to estimate, but experts agree that total production is around one million MT per year. Available production data likely does not reflect some decline due to different diseases affecting banana plants from 2008-12. However, in coming years, production is likely to increase due to GoB and donor efforts to distribute more disease-resistant seed (e.g., Fhia 17 seed). In addition to improving production, demand

for bananas are increasingly driven by the opening of two large scale factories: Imena Brewery, operating in Makamba and Kayanza, and Vyegwa Brewery in Ngozi.

Although bananas are generally produced year round, traders reported that the supply of bananas to local markets decreases during the wet season (September-April), and increases from May-August. During shortages, Burundi imports mainly from Tanzania, via Muyinga in the north and Makamba in the south, and from Rwanda, via Cibitoke. Cross-border trade is entirely informal.

With the exception of Bujumbura, Nyanza-Lac, and Rumonge most markets source bananas locally. Small-scale traders and farmer/traders bring their products either on foot or by bicycle to the markets. Generally, men transport bunches and women sell bananas in the markets. In all markets visited, more than 20 small traders of bananas each sold about 7-10 bunches daily. Although most banana traders were located in the same areas of the market, they did not jointly set prices, but instead openly bargain with consumers. In some remote markets, such as in Rumonge and Nyanza-Lac, traders would jointly pay for transportation. The table below summarizes other trade characteristics observed during the market visits.

Market performance. Although retail prices in surplus areas are generally low, in some areas traditionally known for production, such as Cibitoke and Muyinga, prices were also high during market visits. Surprisingly, in Ruyigi, a deficit area, retail prices were relatively low (BIF 200-300/kg, that is, BIF 4,000-6,000/bunch of 20 kg), reflecting supply availability from Tanzania.

Banana markets are generally less well integrated. Banana prices show variable correlation coefficients among markets for which price data are available. The variable level of price correlation confirms that most banana trade is done locally; only main markets such as Bujumbura, Gitega, and Ngozi are likely to be integrated. The analysis conducted in this report uses retail price data from FAO.

Table 7. Price Correlation for Banana, 2005-13

	Bujumbura	Ngozi	Kirundo	Muyinga	Gitega	Ruyigi
Bujumbura	1.00					
Ngozi	0.59	1.00				
Kirundo	0.22	0.15	1.00			
Muyinga	0.59	0.69	0.23	1.00		
Gitega	0.65	0.59	0.21	0.81	1.00	
Ruyigi	0.41	0.38	0.14	0.61	0.62	1.00

Source: Created by USAID-BEST, using price data from FAO.

34 Bizimana, S., Ndayihanzamaso, P., et al, March 2012, *Conduite Culturelle et Protection du Bananier au Burundi*.

Table 8. Summary of Banana Trade Characteristics and Retail Prices, August 2013

Province	Market	Source	Transportation	Connected to wholesaler	Retail price (BIF/bunch)
Bujumbura (Mairie)	Kinindo	Bujumbura rural	Trucks	Yes	8,000 -12,000
Bujumbura (Mairie)	Chez Sion	Bujumbura rural and Rwanda	Trucks	Yes	8,000-10,000
Muramvya	Rutegama	Collected locally	On head, bicycles	No	6,000-8,000
Gitega	Central market	Collected locally	On head, bicycles	No	6,000-8,000
Ruyigi	Central market	Collected locally, but mostly from the Mpungwe commune	On head, by bicycles, trucks	Yes	5,000-6,000
Cankuzo	Central market	Collected locally mostly from Bweru, and Kigamba, and Cankuzo	On head, bicycles	No	5,000-6,000
Kirundo	Central market	Collected locally mostly from Bugabira, Vumbi, and Kirundo	On head, bicycles	No	5,000-6,000
Ngozi	Central market	Collected locally	On head, bicycles	No	-
Kayanza	Central market	Collected locally mostly from Rukeyo	On head, bicycles	No	7,000-8,000
Cibitoke	Rugombo	Collected locally and imports from Gishoma in Rwanda	By head, bicycles, and trucks	Yes	8,000-10,000
Bubanza	Central market	Collected locally and imports from Rwanda	By head, bicycles, and trucks	Yes	8,000-10,000
Bururi	Rumonge	Collected from Mugina (Mabanda) and Buyengero	Bicycles and trucks	No	8,000-10,000
Makamba	Nyanza-Lac	Collected from Mugina and Mabanda	Bicycles and trucks	No	7,000
Makamba	Central market	Local collections	On head, bicycles	No	4,000-5,000
Rutana	Central market	Local collections	On head, bicycles	No	-

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

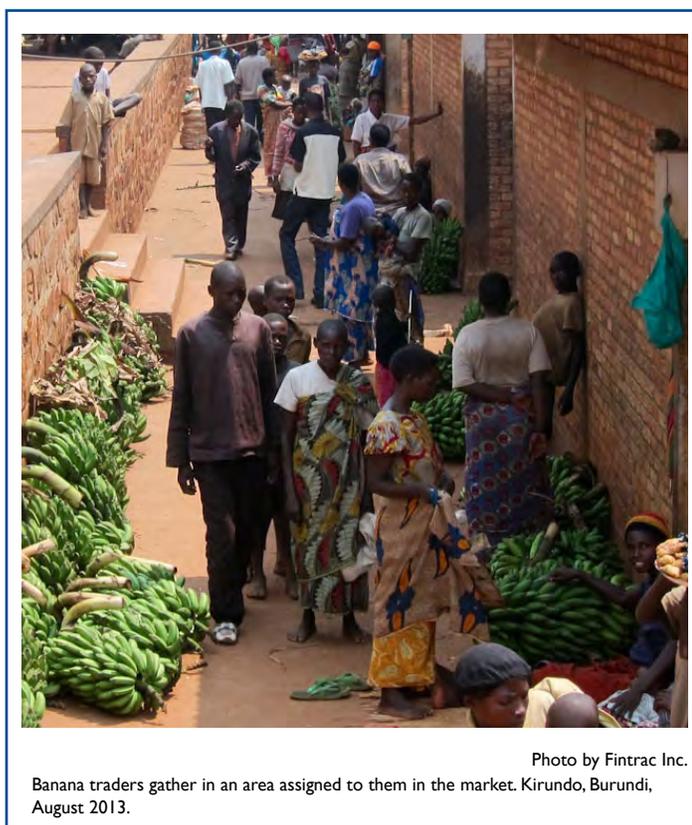


Photo by Fintrac Inc.

Banana traders gather in an area assigned to them in the market. Kirundo, Burundi, August 2013.

2.5.3 Beans

Overview of supply and demand. Burundians consume beans as a complement to other foods such as cassava paste, rice, and/or potatoes. Beans of different varieties are widely available throughout the country. Higher income consumers, especially in Bujumbura and Gitega, prefer and are willing to pay high prices for yellow color beans because of perceived better taste compared to other varieties. Lower income consumers usually can only afford red or mixed-color varieties.

In 2012, Kirundo, Gitega, and Ngozi registered the highest share of production (20, 9, and 8 percent of total production, respectively). Other traditionally important production provinces are Cankuzo, Cibitoke, and Ruyigi. However, in 2012, the production share in these three provinces considerably decreased; that year, they represented less than 5 percent of total production. A large number of subsistence agriculture farmers sell their production to numerous small-scale traders who aggregate production and transport to local markets around production areas. Then, medium-scale traders move these beans to main markets in Bujumbura, Gitega, and Ngozi. Large-scale traders dominate the yellow bean trade. These traders usually collect large volumes and bypass local markets to sell almost exclusively in Bujumbura, and some limited quantities in other important markets in Gitega and Ngozi.

In general, yellow varieties are most traded because of their high retail value. Yellow varieties are usually grown along the border with Tanzania and are also sourced from the Ngara and Karague regions in Tanzania. Traders from Kirundo, Rugiyi and Rutana usually collect yellow beans directly from production areas and transport them to main markets with higher-income populations, such as Bujumbura. Although storage for yellow beans is limited, some traders are able to share space with warehouses that store sugar in sugar production areas, such as Rutana. These traders later transport the yellow beans straight to Bujumbura. Yellow bean imports are available as early as May, but are most abundant after September.

Although it is possible to harvest beans three times per year, supply is not stored. HHs in bean-producing areas typically consume their entire harvest. In those regions where production is limited, inter-province and cross-border imports complement local production. In Makamba, imports from Tanzania are important from November-March. In Rutana, traders reported that around 60 percent of the bean supply was from Rwanda and 20 percent from Tanzania.

Production volumes suffer from stagnant growth during the ongoing 2013 season. Traders primarily cited lack of irrigation and fertilizer as the main reasons for low production. For example, in Kirundo, water shortages, aggravated by the fact that Burundi does not produce beans under irrigation, has severely constrained output.³⁵ Even in surplus markets, such as Kirundo and Ngozi, available supply becomes depleted when wholesalers from other markets with higher income consumers (e.g., Bujumbura) or with limited production buy beans for their own markets.

Additionally, in recent seasons, exports to Tanzania have grown due to a shortage of beans in that country caused by adverse weather conditions; exchange rate differences are also more favorable for Tanzanian traders.

Market performance. Prices are extremely variable depending on the season. In general, prices are low in April at the beginning of the season and then slowly increase until September. For example, in Muramvya, May prices for red and mixed varieties were as low as BIF 45,000 per 100 kg bag, equivalent to BIF 450 per kg. Market visits in August 2013 revealed prices of BIF 700 per kg. Local farmers do not store beans for sale during the high price season. According to traders, retail prices will likely reach 1,200 per kg by October.

³⁵ In previous years, bean producers in Cibitoke indirectly benefited from programs helping cotton producers who received fertilizers from the Compagnie de Gérance du Coton (COGERCO). The fertilizer originally applied to cotton production was important to keep soil fertility for bean production. Since this program finished, farmers have not been able to afford fertilizers.

Table 9. Bean Retail Price Variation (BIF/kg) by Markets, August 2013

Province	Market	Red and mixed varieties	Yellow varieties
Muramvya	Rutegama	700	1,200
Gitega	Central market	800 to 900	1,000 to 1,200
Rugiyi	Central market	750	1,200
Cankuzo	Central market	800	Not available in the market
Kirundo	Central market	700 to 750	1,200
Ngozi	Central market	700 to 800	1,200
Kayanza	Central market	750 to 900	Not available in the market
Cibitoke	Rugombo	1,000	Not available in the market
Bubanza	Central market	1,000	Not available in the market
Bururi	Rumonge	1,000	1,400 to 1,500
Makamba	Nyanza-Lac	1,000	1,400
Makamba	Central market	1,000	1,200
Rutana	Central market	700	1,200

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

Despite large price margins between producer and retail prices, low retail prices and high transportation costs prevent traders from realizing profits. For example, in Cankuzo several traders were not able to sell their excess supply in Gitega (a major market for beans) because retail prices in both markets were the same. In Bubanza, although traders generally source from Ngozi, they were not willing to reach surplus areas in Kirundo because of high transport costs.

Bean prices show high price correlations (above 75 percent) among all the markets for which price data are available. This level of price integration suggests that retail prices in different markets across the country varied together during the specified period (which was confirmed during interviews) and that traders do move beans based on price differentials.

Table 10. Price Correlation for Beans, 2005-13

	Bujumbura	Ngozi	Kirundo	Muyinga	Gitega	Ruyigi
Bujumbura	1.00					
Ngozi	0.80	1.00				
Kirundo	0.76	0.88	1.00			
Muyinga	0.84	0.89	0.88	1.00		
Gitega	0.76	0.92	0.84	0.89	1.00	
Ruyigi	0.76	0.91	0.88	0.89	0.95	1.00

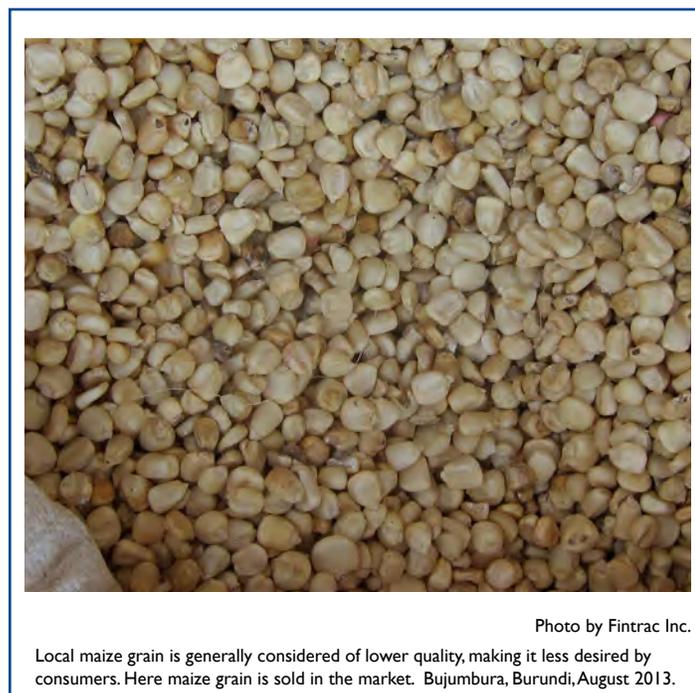
Source: Created by USAID-BEST, using price data from FAO.

Finally, taxes on food imports are likely to negatively affect consumption. In Cankuzo, a medium-scale trader commented that these duties have caused bean imports from Tanzania to fall. As a result, he anticipated that prices in this particular market, already seasonably high, would surpass BIF 1,200 per kg by October.

2.5.4 Maize

Overview of supply and demand. Maize is almost always milled before consumption. It is generally eaten as a thick porridge mixed with other cereals, such as wheat and sorghum, or with soybeans. In recent years, maize has become an important substitute for cassava flour, and people also use maize meal to make *ugali*. In some areas, maize goes toward alcoholic beverages. Despite increasing popularity, maize meal remains a price sensitive product, meaning that when maize meal prices increase consumers either reduce or eliminate consumption. Generally, consumers appreciate the freshness of locally produced maize meal, but their preference is primarily driven by the low price compared to imported products.

Maize is usually best produced in the Moso region bordering Tanzania (provinces of Cankuzo, Makamba, Ruyigi, and Rutana) and the Imbo Plain (Bubanza and Cibitoke). Currently, the largest share of maize production comes from the provinces of Bururi and Ngozi. In most parts of the country the main harvest season is usually from April-May. In Bubanza, availability is also high from December-April. In general, even in production markets, local maize is not enough to satisfy the growing demand. In Bubanza for example, despite the capacity to harvest twice a year, traders need to source from Bujumbura to satisfy local demand.



Production shortages are increasingly common due to climatic conditions and post-harvest losses. Additionally, stored maize is

not generally treated to preserve its quality and supply is finished usually during the same season. Imports from Rwanda, Tanzania, and Uganda have increasingly become more important due to their availability and quality.

Gitega is the main market from which small-scale traders collect maize to then sell to large-scale traders who transport production to other markets in the country, primarily Bujumbura. Due to its central location, Gitega also receives maize flour from as far away as Makamba and Rutana. Maize is generally milled in local communities or markets. USAID-BEST found only one Burundian businessman in Kirundo who was processing maize into maize meal; the maize grain was primarily sourced from Tanzania though he did purchase some local production in April and May. According to this businessman's estimations, the volume sold each month reached 10 MT and the average price ranged from BIF 1,000-1,050 per kg.

Market performance. Compared to other commodities, maize meal prices were less variable. Consistently, prices for imported maize meal was higher than for local varieties. The table below summarizes price variation by type of product (i.e., grain vs. meal) in August 2013.

Table 11. Maize (grain and meal) Retail Price Variation (BIF/kg) by Select Markets, August 2013

Province	Market	Local grain	Imported grain	Local meal	Imported meal (BIF per Kg)
Bujumbura (Mairie)	Kinindo				1,200
Bujumbura (Mairie)	Chez Sion				1,200
Muramvya	Rutegama	600 to 650		1000, 1,100 and 1,200	1,400
Gitega	Central market	600 to 650	800	650 to 750	900
Ruyigi	Central market				
Cankuzo	Central market	500		600	
Kirundo	Central market			26,000 per 25 kg	(23,000 to 25,000 per 25 kg)
Kayanza	Central market				1,400
Cibitoke	Rugombo		600		1,000
Bubanza	Central market	400 to 500	800	600 to 700	900 to 1000
Bururi	Rumonge	400	650	700	1,000 to 1,500
Makamba	Nyanza Lac				900
Makamba	Central market			600 to 700	1,200 to 1,300
Rutana	Central market			600	

Source: Created by USAID-BEST, based on information collected from local markets visits in August 2013.

Maize grain prices show high price correlations (above 70 percent) among markets, with the exception of Muyinga and Ngozi (67 percent). This level of price integration confirms that retail prices in different markets across the country varied together during the specified period. Data for maize meal prices are not currently available, but given that imports play such an important role, it is highly likely that markets are integrated as well (see below).

Table 12. Price Correlation for Maize Grain, 2005-13

	Bujumbura	Ngozi	Kirundo	Muyinga	Gitega	Ruyigi
Bujumbura	1.00					
Ngozi	0.80	1.00				
Kirundo	0.82	0.95	1.00			
Muyinga	0.86	0.67	0.73	1.00		
Gitega	0.84	0.80	0.73	0.74	1.00	
Ruyigi	0.90	0.87	0.78	0.84	0.83	1.00

Source: Created by USAID-BEST, using price data from FAO.

2.5.5 Wheat

Overview of supply and demand. Primarily, wheat is used to prepare *ugali*. In certain areas, such as Bujumbura Rural, Bururi, Kayanza, and Muramvya, wheat grain is typically milled at the HH level and is commonly mixed with soybeans or other cereals, such as maize and sorghum, to make a porridge for children. A small share of the already limited supplies of local wheat grain goes toward flour.³⁶

Total production in Burundi is estimated at around 10,000 MT per year. Wheat is produced in high-altitude areas such as Bukeye (Muramvya), Matongo (Kayanza), in some areas of Mugamba (Bururi), and Muruta, Matongo (Kayanza), and in some areas of Mugamba (Bururi). Subsistence farmers dominate production; these HHs generally use wheat grain for own-consumption and then sell any small surpluses to markets. Wheat is generally harvested starting at the end of July in some areas, but the peak season is in August. Climatic variations can greatly affect yields. During market visits, traders reported that sporadic rains during the beginning of the harvest were already causing supply reductions in many production areas.

Besides production markets in Kayanza and Muramvya, the central markets of Gitega and Ngozi become important supply sources for wheat grain starting in August when traders bring their surpluses. From these markets, wheat grain is transported around the country. Bujumbura is the main consumption market. Other markets serving communities with low-income consumers have a limited supply of wheat grain during the year. In Cankuzo, it took a wheat trader approximately two-three weeks to sell 250 kg of wheat grain because high prices dampened demand.

³⁶ Wheat flour for bread production is further detailed in Chapter 5.

Market performance. Local wheat grain prices are variable according to season. For example, this year at the beginning of the season prices in production areas were around BIF 700 in Kayanza and BIF 800 in Muramvya. Traders in these markets and in Ngozi, an important supply market, agreed that by the end of the harvest season when local production is completely depleted (usually by March), prices would likely double. Wheat grain imports for direct consumption are not common as most HHs consume their own yields. At times when local wheat grain is not available, consumers will purchase wheat flour imported from Tanzania as a substitute for wheat grain.

2.5.6 Rice

Table 13. Wheat Grain Retail Price Variation (BIF/kg), August 2013

Province	Market	Price range
Bujumbura (Mairie)	Chez Sion	1,100 to 1,200
Muramvya	Rutegama	800
Gitega	Central market	1,000
Cankuzo	Central market	1,500
Ngozi	Central market	1,000 to 1,500
Kayanza	Central market	700 to 800
Cibitoke	Rugombo	1,000
Bubanza	Central market	1,300 to 1,400
Makamba	Nyanza-Lac	1,400 to 1,500
Rutana	Central market	1,300

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

Overview of demand and supply. Rice is widely consumed mostly in urban areas; it is usually served as a side dish with meat and other vegetables. Per capita consumption of rice is around 10 kg per year in rural areas and 30 kg per year in urban areas. Low-income consumers generally purchase low-quality rice (e.g., mostly broken rice) whereas wealthier consumers purchase imported or local varieties that are more aromatic and unbroken.

Rice is mainly cultivated along Lake Tanganyika (parts of Bubanza, Bujumbura Bururi, Cibitoke, and Makamba) and the marshlands of middle- and high-altitude regions (particularly Ngozi). The total volume of paddy is around 101,928 MT, which is equivalent to 56,060 MT of husked rice. Although Bubanza and Ngozi appear to produce enough rice to satisfy local market demand, all other areas require imports. Currently, imported rice represents less than 10 percent of total production.

Rice marketing divides into local and imported rice value chains. For local varieties, small-scale traders and farmer/traders supply low-quality, cheaper rice for low-income consumers. In the import market, large-scale wholesalers supply more expensive rice with specific quality characteristics (e.g., whole grain, aroma) to high-income consumers.

Gitega is one of the largest markets from which traders buy and sell rice to different parts of the country. Local varieties are usually available from May-September, and thereafter traders supply imports, mainly from Tanzania, Pakistan, and India. Imported varieties account for a greater share of the rice market in Bujumbura, Gitega, and Ngozi. In Cankuzo, Makamba, Rutana, and Ruyigi local varieties account for the most share of the market. The table below summarizes some marketing characteristics and retail prices observed during market visits in August 2013.

RICE DONATIONS

According to farmers and traders in 2011, rice donations from Japan (around 10,000 MT of rice) displaced local rice in several markets around the country. During the USAID-BEST visit, FAO experts commented that after rice donations were delivered, the price of rice decreased so rapidly that producers were forced to sell all their production quickly to avoid a negative impact since farmers in Burundi do not have the capacity to store rice. Producers located in the Imbo Plain were the most affected by this donation. However, according to the Ministry of Trade, Industry, Posts, and Tourism, rice donations did not cause any harm to local markets because even though Burundi produces a large amount of rice, imports are still needed to satisfy local demand. Despite contradicting opinions, no market assessment was conducted before or after the donations were made that would confirm any impacts.

Table 14. Summary of Rice Trade Characteristics and Retail Prices, August 2013

Province	Sources of rice	Transportation	Connected to wholesaler	Retail price (BIF/kg)
Bujumbura (Mairie)	Local	Cars, Bicycles	Yes	1,300
Bujumbura (Mairie)	Pakistan	Trucks	Yes	1,500
Bujumbura (Mairie)	Tanzania	Trucks	Yes	1,800 – 2,000
Muramvya	Gitega	Trucks	Yes	1,000
Muramvya	Gitega			1,100
Muramvya	Bujumbura			1,200
Gitega	Local	Bicycles	-	1,000
Gitega	Cankuzo, Ruyigi, Rutana and Makamba	Trucks	Yes	1,200
Ruyigi	Tanzania	Trucks	Yes	1,200
Ruyigi	Local	Trucks	Yes	1,100
Cankuzo	Local	Bicycles	No	1,000
Cankuzo	Tanzania	Trucks		1,300 – 1,400
Kirundo	Local	Bicycles	No	1,300
Kirundo	Pakistan	Trucks	Yes	1,500
Ngozi	Local	Bicycles	No	1,000
Ngozi	Kirundo	Trucks	Yes	1,300
Ngozi	Tanzania	Trucks	Yes	1,500
Ngozi	Tanzania	Trucks	Yes	1,800
Kayanza	Local	Bicycles	No	1,000 – 1,100
Kayanza	Bujumbura	Trucks	Yes	1,300
Kayanza	Pakistan	Trucks	Yes	1,500
Cibitoke	Local	Bicycles, and trucks	Yes	1,200
Bubanza	Local	Bicycles, and trucks	Yes	1,200
Bururi	Gitega	Bicycles, Trucks	Yes	1,200 – 1,300
Makamba	Local	Bicycles	Yes	1,300
Makamba	Tanzania	Trucks	Yes	1,600
Makamba	Local	Bicycles	Yes	1,400
Makamba	Local	Bicycles	No	900
Rutana	Local	Bicycles	No	1,000
Rutana	Tanzania	Trucks	Yes	1,300

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

Market performance. Rice prices show high price correlations (above 80 percent) among markets for which data are available. This level of price integration confirms that retail prices in different markets across the country varied together during the specified period and traders move products based on price differentials (see table below).

2.5.7 Palm Oil

Table 15. Price Correlation for Rice, 2005-13

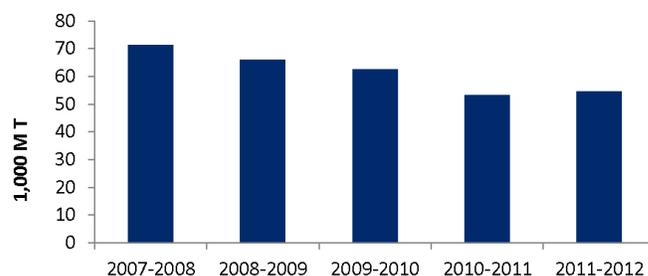
	Bujumbura	Ngozi	Kirundo	Muyinga	Gitega	Ruyigi
Bujumbura	1.00					
Ngozi	0.90	1.00				
Kirundo	0.94	0.90	1.00			
Muyinga	0.97	0.89	0.95	1.00		
Gitega	0.96	0.93	0.96	0.96	1.00	
Ruyigi	0.95	0.92	0.96	0.97	0.98	1.00

Source: Created by USAID-BEST, using price data from FAO.

Overview of supply and demand. Consumers generally use palm oil for cooking vegetables and preparing sauces. In urban areas, consumers increasingly prefer refined vegetable and palm oils rather than the commonly unrefined oil produced and widely consumed in rural HHs; in some rural markets, unrefined palm oil is the only type available.

Burundi produces around 54,700 MT of palm fruits (main input in palm oil production) and the extraction rate is currently 18 percent, yielding around 10,000 MT of oil. Despite a reduction in production since 2008 (see figure below), the GoB recognizes that palm oil is a strategic commodity for reducing high malnutrition rates in Burundi. Consequently, the GoB has collaborated with the EU and IFAD to provide around BIF 2 billion for the Project to Accelerate the Achievement of the Millennium Development Goals (PROPA-O, *Projet pour accélérer l'atteinte de l'Objectif du Millénaire pour le développement (OMD) Ic*). As part of this program, loans are provided to farms for expansion of palm plantations. The GoB has also initiated numerous other projects that include support to palm oil production (e.g., the GoB has distributed new varieties of oil palm seedlings in Rumonge). Given these efforts, production will likely increase by around 800 MT per year when trees planted in 2009 start producing fruits.

Figure 12. Palm Fruit Production (1,000 MT), 2007-12



Source: OHP.

The main production area is in Rumonge Province. About half of total production from Rumonge is shipped to the North (Kayanza, Kirundo, Muyinga, and Ngozi,) in trucks and cars, 30 percent is delivered to Bujumbura and the South, and about 20 percent is transported to the East and Center (Cankuzo, Gitega, Karusi, and Ruyigi) using mainly cans and bags transported on bicycles.

Table 16. Palm Oil Plants by Province, 2011

Province	Communes	Number and Type of Plants
Bururi	Rumonge	728 artisanal plants
Bururi	Rumonge	54 improved artisanal plants
Bururi	Rumonge	2 semi-industrial plants
Bururi	Rumonge	1 industrial plant
Makamba	Nyanza-Lac	183 artisanal plants
Makamba	Nyanza-Lac	12 improved artisanal plants
Bubanza	Mpanda, Rugazi & Bubanza	46 artisanal plants
Bubanza	Mpanda, Rugazi & Bubanza	1 improved artisanal plant
Ruyigi	Kinyinya	1 semi-industrial plant

Source: OHP.

Figure 13. Palm Oil Plants by Commune, 2011



Source: Created by USAID-BEST, based on data from OHP.

Currently, 1,028 plants extract palm oil in Burundi, out of which 957 plants are artisanal factories, 67 are improved artisanal factories, 3 are semi-industrial, and only 1 for refined oil production. Average palm oil yields vary depending on the type of facility used for extraction. Traditional artisanal plants are more inefficient, lack the capacity to produce refined oil, and have questionable quality and food safety standards. The table below summarizes oil yields by type of factory.

Table 17. Palm Oil Total Capacity by Type of Plant, 2011

Type	Number of plants	Oil yield (share in % of palm oil/palm fruits)
Industrial	1	20 – 22
Semi-industrial	3	18 – 20
Improved artisanal	67	17 – 19
Artisanal	957	14 – 16

Source: OHP.

Until 2008, Burundi exported palm oil from Kayanza, Kirundo, Musinga and Ngozi into Rwanda. Official records and reports from traders in different markets confirm that Burundi no longer ships unrefined palm oil, but Savor Company does export refined oil to Rwanda. Regarding imports, current government data does not report oil imports. However, informal imports likely represent an important share of the market.

As for domestic trade, palm tree farmers (or those people who own palm trees) take fruits to local artisanal plants where they pay a processing fee to have oil extracted. These farmer/traders later take the palm oil (either in cans or bags) to local markets where they sell directly to consumers or other traders. Large-scale wholesalers transport palm oil to different provinces around the country.

Market performance. Palm oil price data are not currently collected, but all markets visited appear integrated as unrefined palm oil prices were similar; the price per liter ranged from BIF 1,800-2,800. Refined oils (local and imported brands) cost about BIF 15,000 for a can of 5 liters (BIF 3,000 per liter).

Table 18. Palm Oil Retail Price Variation in Selected Markets, August 2013

Province	Market	Retail price (BIF/kg)
Bujumbura (Mairie)	Kinindo	2,200
Bujumbura (Mairie)	Chez Sion	2,200
Gitega	Central market	2,100
Ruyigi	Central market	2,800
Cankuzo	Central market	2,800
Kirundo	Central market	2,400
Cibitoke	Rugombo	2,300
Bubanza	Central market	1,400/0.72liters
Bururi	Rumonge	1,800 – 1,900
Makamba	Nyanza-Lac	1,200/0.72liters
Makamba	Central market	1,300/0.72liters
Rutana	Central market	2,400

Source: Created by USAID-BEST, based on information collected from local markets visits in August 2013.

2.5.8 Potatoes

Overview of supply and demand. Burundian HHs consume Irish and sweet potatoes almost daily as part of stews or as a side dish. A family of five eats an estimated 2 kg of potatoes per day. Usually, Irish potatoes are traded when HH food production is not enough whereas sweet potatoes are consumed exclusively at home.³⁷ In general, low-income consumers prefer local Irish potatoes (i.e., potatoes) due to their lower price compared to imported potatoes, which are generally BIF 200-300 higher. Imported varieties, mostly from Ruhengeri, Rwanda, are preferred in higher-income markets in Bujumbura and in border provinces, such as Kayanza.

Production is generally concentrated in high-altitude provinces and in marshland areas. An important advantage for potato production is that they generally grow in combination with vegetables because planting and harvesting seasons are different. Production is available two months after planting. In recent

³⁷ This section focuses on Irish potatoes due to their regional and cross-border trade compared to sweet potatoes, which are exclusively consumed locally.

years, production from Ngozi Province has gained market share due to its quality and because farmers are able to produce excess supply.³⁸

Besides Ngozi, all other production areas rely on imports when local production is depleted. In Ngozi, potatoes are locally collected mostly during Season C and in the marshland areas between August-September. From this province, traders transport to Kayanza, Cibitoke, and as far as Bururi and Rutana. In other areas, such as Bujumbura, Kayanza, and Kirundo imports from Ruhengeri (Rwanda) are important sources when local availability is limited.

Small-scale traders who collect potatoes in farming areas and deliver them to markets dominate the trade. These traders transport potatoes in bicycles and typically bring around of 100 kg per trip. Large-scale wholesalers are not commonly involved in the potato trade.³⁹ Only one small-scale trader in the market of Ngozi reported working with a wholesaler from Bujumbura. However, according to this small-scale trader, when potato supply is not enough, it could take more than a week to collect the volume demanded by the wholesaler in Bujumbura.

Market performance. With the exception of Ngozi, local and imported potatoes vary significantly across markets. In general, because local varieties are also smaller and considered lower quality, prices tend to be much lower than imported varieties. In several markets visited, food taxes on Rwandan potatoes increased retail prices. On the other hand, more availability of potatoes from Ngozi helped supply markets and decrease extreme price variations due to limited supply. The table below provides a comparison between locally grown and imported potatoes observed during market visits in August 2013.

Table 19. Potato Retail Price Variation (BIF/kg), August 2013

Province	Market	Local	Imported
Bujumbura (Mairie)	Kinindo		800
Bujumbura (Mairie)	Chez Shion		650
Gitega	Gitaramuka	550 to 600	
Gitega	Central market	400	
Kirundo	Central market		800
Ngozi	Central market	400-500	
Kayanza	Central market	450-500	750
Cibitoke	Rugombo	500-600	700
Bururi	Rumongue	700-800	900

Source: Created by USAID-BEST, based on information collected from local markets visited in August 2013.

38 Ngozi was not an important production area for potatoes, but in 2004 MINAGRIE started a new project to improve seed multiplication and distribution. In addition, projects helping to control marshland have contributed to improved production in this area. In other areas, such as in neighboring Kayanza, lack of seeds and limited marshland limit output.

39 According to a market expert, large-scale wholesalers would import from Ruhengeri (Rwanda). However, during market visits, the team did not find large-scale wholesalers in any of the markets visited.

2.6. IMPLICATIONS FOR TITLE II AND COMPLEMENTARY MARKET-BASED PROGRAMMING

Local markets for staple foods in Burundi are based on subsistence agriculture and involve traders of all sizes who are heavily dependent on local trade and informal imports. Despite high transportation costs and limited storage constraining movement of products around different markets, staple markets generally appear to be well integrated (with the exception of banana markets).

However, certain challenges do exist. Seasonal and random climatic effects, coupled with extremely low input use and adoption of modern agricultural practices, severely limit agricultural production. Moreover, given that subsistence agriculture is the main source of income for most HHs across Burundi, extreme poverty limits the ability of HHs to buy food on the market to make up for any shortfall in their own production. With a high number of poor consumers, traders lack price incentives to move goods around the country.

Even with these availability and access issues, distribution of certain commodities can have a negative effect on emerging agricultural sectors. Therefore, a well-designed in-kind food assistance program that targets distributions during the lean season and includes commodities that are important from a nutritional standpoint are likely to have a positive effect on HHs, while creating the least amount of disincentives to local production and trade. In addition, this type of targeting will likely reach consumers who would not otherwise be buying much food on the market.

Given these circumstances, a future development food assistance program should consider the following when selecting commodities:

- **Corn Soy Blend (CSB)** is appropriate to continue including in any ration intended to provide nutritional support. Although pre-packed cereal blends are available they are not currently fortified with micronutrients and thus are not comparable to CSB from the US. Local cereal blends are fortified with soybeans, but the high cost restricts access for the average consumer; moreover, these cereal blends are only available in urban markets.⁴⁰ In rural areas, only HHs that can afford the ingredients (wheat, maize, soybean) to prepare their own cereal blends are able to consume this food.⁴¹ USAID could consider local procurement of CSB if the companies currently producing the local cereal blend are able to fortify their product with micronutrients and significantly increase the volumes produced.

40 Two companies currently dominate the market for pre-packed cereal blends: Mutoyi Company, based in Burundi and SOSOMA Industries, based in Rwanda. According to a key informant, a third player, Le Plenitude, is planning to enter the super cereal blend market but the anticipated date is not certain.

41 BUSOMA (Burundi Soy, Sorghum, and Maize) is a local cereal blend produced by the Free Methodist Church that is currently distributed in very small quantities (about 6 MT per year), and only to limited communities around the country.

- **Refined vegetable oil (RVO)** is appropriate to continue including in the ration for several reasons: 1) currently, palm oil consumption is common among Burundians, but fat from oil consumption still remains below the WHO recommended amount for a healthy life; 2) vegetable oils are relatively expensive for most consumers, and high prices limit consumer purchases of oil; and 3) the palm oil widely used by consumers is of low quality, and the refined oil available on the market is not fortified. In the future, if local RVO production substantially increases (as projected by the GoB) and the oil is fortified, USAID should consider local purchases to support the oil industry.

has consistently received support over the years to improve production and develop local value chains. If USAID would like to include rice in a Title II ration then it should explore local purchases of rice.

- **Sorghum** should not be included in any Title II ration given that more than 90 percent of sorghum is used to produce local beer, rather than as food.

Lastly, as for **complementary market-based programming** in Burundi, USAID should consider the use of cash and/or vouchers in areas where markets are physically accessible to beneficiary populations. The use of cash and/or vouchers could be feasible and appropriate during the main harvest times of seasons A and B when production is most widely available. Thus far, cash and/or vouchers have not been widely implemented for reasons such as fear that cash will support rebel groups and that vouchers may be traded; however, no empirical evidence supports these claims. The competitive nature of markets for staple foods, and the fact that most HHs derive income from sales of staple crop production signal that cash and/or vouchers can positively benefit farmers and small- and medium-scale traders.⁴² Additionally, and based on other donors' experiences (e.g., WFP and the EU-funded voucher program in refugee camps), vouchers appear to have been greatly appreciated by key stakeholders, including local administrators, WFP, and refugees themselves.



Photo by Fintrac Inc.

As seen in this stall in the Chez Sion market, it is not uncommon to find small amounts of food aid for sale by retail vendors. Bujumbura, Burundi, August 2013.

- **Maize**, in particular maize meal, should be considered for inclusion in a Title II ration. Considering the current state of this sector, maize meal from transoceanic sources would not in the short term compete with locally produced maize meal. In addition, maize meal is generally a substitute for cassava when cassava prices are higher. Since transoceanic shipments could compete with regionally grown meal from Tanzania and Uganda, USAID should consider regional procurement.
- **Pulses** should be considered for inclusion in a Title II ration. Including beans during the lean season, when locally produced beans are generally not available or more expensive, would not harm local markets. Beans should be included for a short period so it would not disrupt the emerging bean sector (considered a strategic sector by the GoB). While at the local level some provinces in Burundi are self-sufficient in pulses, current production and trade is not enough to satisfy demand.
- **Rice**, from transoceanic sources, will compete with locally produced rice. Rice is an important staple and the rice sector

⁴² According to information from WFP and the EU, the voucher program in refugee camps was a success among donors, local administrators and refugees. More detailed information is provided in Chapter 4.



CHAPTER 3 OVERVIEW OF FOOD SECURITY PROGRAMS

CSB is distributed under the Title II PM2A, and WFP's emergency program. Ngozi, Burundi, August 2013.

Photo by Fintrac Inc.

3.1. INTRODUCTION

This chapter begins with an overview of current food security programmatic trends and then presents a map (Figure 3.3) depicting the provinces where most donors are currently implementing programs, followed by a summary of these food security and nutrition projects. Finally, this chapter also discusses those programs not directly involved in distribution of food aid that still contribute in other ways to decreasing food insecurity in Burundi.

Since the 2005 elections, Burundi has gained political and social stability and major donors have mostly transitioned from emergency to development assistance. USAID currently provides funds for a five-year Preventing Malnutrition in Children Under 2 Approach (PM2A) program and other organizations (i.e., WFP, partially funded by USAID, and the United Nations Children's Fund (UNICEF)) distribute emergency food assistance.

3.2. PROGRAMMATIC TRENDS

Not surprisingly programs are **focusing on increasing agricultural productivity and incomes to address chronic malnutrition**. Nationwide, chronic malnutrition among children under five years of age is currently estimated at

58 percent.⁴³ However, few programs see food aid as an effective response.

Donors and implementing agencies concede that **following a multi-sectoral approach** ensures the best platform for carrying out food security and nutrition programs. For example, the World Bank and the International Fund for Agricultural Development (IFAD) have embraced this model by combining agricultural value chain programs with programs teaching mothers to prepare meals from locally produced foods.

Food security and nutrition programs are **targeting large swaths of the population**. Currently, private voluntary organizations (PVOs) spread their activities over all but one province (Mwaro) in Burundi. Targeting single communities poses a challenge given the large number of people affected by food insecurity and malnutrition; the intention of most programs is to cover the largest proportion of the vulnerable population.

Various donors are also **acknowledging the increasing need to coordinate efforts** and to collectively strategize the best approach to implementation. The World Bank and the International Fund for Agricultural Development (IFAD) are already collaborating on certain programs, and others, such as USAID and the European Union (EU), have initiated conversations on how to work better together. Moreover, all donors agreed that the Government of Burundi (GoB) should

⁴³ ISTEERU, May 2012, *Enquête démographique et de santé Burundi 2010 Rapport Final*.

take more of a lead in this coordination effort and that a more proactive government role in the process would ensure improved integration among donors.

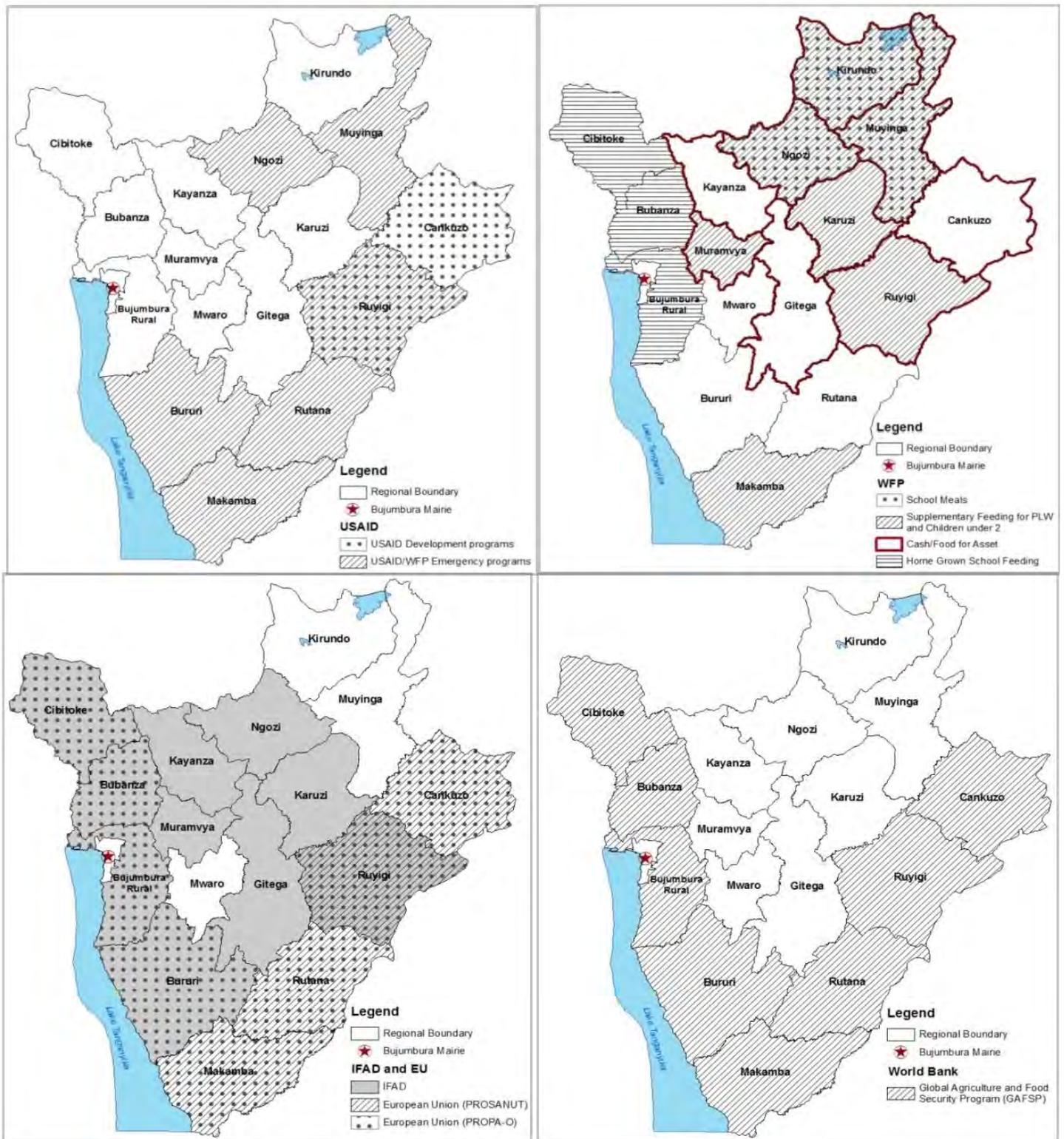
Implementing organizations are likely going to be **adopting more local and regional procurement (LRP) and cash and/or voucher programs** in the future. Although these modalities have not been systematically utilized in the past, WFP has piloted a Purchase-for-Progress (P4P) type of local procurement to support domestic production and a voucher program in refugee camps. Currently, limited food supply places certain constraints on the LRP program. Future Title II awardees must take this obstacle into account as well as the limited evaluation of the current voucher scheme before implementing any large-scale programs.

3.3. FOOD SECURITY AND NUTRITION PROGRAMS

The US Government has actively provided different types of food assistance to Burundi over the years. The maps below highlight the provinces in which development and emergency food assistance programs are currently operating. Additionally, the maps illustrate WFP, IFAD, EU, and the World Bank programming by province.



Figure 14. Food Security and Nutrition Programs by Donor, August 2013



Source: UNICEF, *Analyse de la Malnutrition des Enfants au Burundi*, 2013.

*For IFAD source: IFAD, *Republique du Burundi: Programme de developement des filieres (PRODEFI)*, Document de conception-Rapport Principal.

*For WFP source: Country Programme 2014-16: Geographic Coverage & Activities, May 2013.

3.4. USAID

3.4.1 Food For Peace (FFP)

The table below summarizes the main Title II programs and food donations to Burundi since FY08. FFP in Burundi is funding a PM2A, and previously a Multi-Year Assistance Program (MYAP), and also supports emergency assistance to WFP and UNICEF.

Table 20. Annual US Title II Distributed Food Aid to Burundi (MT), FY2008-13

Partner/ Program	FY08	FY09	FY10	FY11	FY12	FY13
WFP-ER	7,380	3,720	3,240	7,630	5,390	3,460
UNICEF-ER					80	240
CRS-MYAP*	1,200	2,240	1,090	1,340		
CRS-PM2A		5,570	3,600	6,810	4,800	6,530
Totals	8,580	11,530	7,930	15,780		10,230

Sources: USAID, USDA, CRS.
*CRS-MYAP ended in August 2012.

Until 2012, Catholic Relief Services (CRS) implemented simultaneously the MYAP and the PM2A program. The MYAP, which ended in August 2012, was implemented in Kayanza, Kirundo, and Muyinga provinces and had the following three main objectives: a) enhance human capacities of vulnerable households (HHs); b) improve and sustain the livelihoods capacity of vulnerable HHs; and c) strengthen community resilience.

PM2A is locally referred to as *Tubaramure* (“Let’s help them grow” in Kirundi). CRS is the lead implementing partner working with three different PVOs as sub-awardees: International Medical Corps (IMC), Food for the Hungry (FH), and CED-Caritas/Burundi. The program started in July 2009 and it is scheduled to run until October 2014. The geographic implementation includes 268 hills (*collines*, in French) in 12 communes in Cankuzo and Ruyigi provinces. This program received a US\$45 million grant to target around 51,075 mother-child pairs. By April 2012, the program reportedly had already reached 49,652 mother-child pairs.⁴⁴ Alongside the food assistance component, this program aims to prevent malnutrition by addressing behavioral change (including communication within communities, best use of local foods among other activities), and health care services (including quality and delivery).

Each sub-awardee focuses on different objectives. FH prioritizes changes in household behavior, such as training on basic nutrition and hygiene practices, IMC concentrates on nutrition and health services, and Caritas Burundi primarily works on commodity management and compliance. Additionally, Food and Nutrition Technical Assistance and the International Food Policy

44 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

Research Institute (IFPRI) provide technical assistance, research implementation, and monitoring.⁴⁵

The PM2A program, designed in collaboration with IFPRI researchers, is believed to be more effective in reducing malnutrition than historically favored recuperative methods. One component of the program is to distribute food assistance to mothers, children under two (U2s), and a separate ration for the rest of the household. Daily rations for mothers and U2s include 100-200 g of Corn Soy Blend (CSB) and 10-20 g of vegetable oil; the daily family ration includes 400 g of CSB and 40 g of oil.⁴⁶ The table below summarizes the total commodity distributed under PM2A since FY09.

Table 21. PM2A Program Total Commodity Distribution (MT)*, FY09-12

Year	FY09	FY10	FY11	FY12	FY13
PM2A-CSB	5,054.03**	3,507.95	6,136.30	4,285.45	2,000
PM2A-Veg. Oil	509.79	97.59	619.77	500.04	200
Total	5,563.82	3,605.54	6,756.07	4,785.49	2,200

Source: CRS.
Note: * Commodity tonnage as per bill of lading (BL); **1,560 MT of CSB was transferred to WFP/Burundi in FY09; CSB= corn soy blend; Veg. Oil= vegetable oil.

USAID FFP is also actively involved in emergency food distributions via funding to WFP. These programs reach a reported 1.1 million beneficiaries.⁴⁷ In 2013, FFP has already provided US\$10,085,700 (in cash and food aid) to support WFP emergency programming. See Section 3.5 for additional program details.⁴⁸

Monetization. CRS monetizes US Hard Red Winter (HRW) wheat in Burundi to support current PM2A program activities. Since 2008, CRS has monetized 7,916 MT of HRW wheat per year for the MYAP and PM2A programs. In 2012, when the MYAP ended, the figure was reduced to 3,780 MT, but in FY13 the volume slightly increased to 4,330 MT.

Table 22. USAID Monetized Commodities (MT), FY08-12

Year	FY08	FY09	FY10	FY11	FY12	FY13
HRW Wheat	4,310	13,090	8,000	10,400	3,780	4,330

Source: CRS, August 2013.

45 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

46 CRS, 2013, *Feuilleton trimestriel d'information sur les activités du programme Tubaramure PM2A Burundi*.

47 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

48 Personal communication with USAID/Burundi Mission, August 2013.

3.5. WFP

WFP is implementing two programs in Burundi: a Country Program, and a Protracted Relief and Recovery Operation (PRRO). In its PRRO, WFP provides assistance to refugees and returnees through institutional feeding and nutrition supplementation intended to reach children and mothers with chronic malnutrition. In its Country Program, WFP provides assistance for school feeding and vulnerable groups. The table below summarizes the total food distributed in 2012 under the Country Program and the PRRO:



Photo by Fintrac Inc.

WFP uses its fleet of trucks to transport commodities to distribution sites. Ngozi, Burundi, August 2013.

In 2013, WFP continued with similar country programs and some PRRO activities were scheduled to end. In July 2013, both activities assisted a total of 166,922 beneficiaries. Food distribution totaled 483 MT of food (maize grain, meal, rice, pulses vegetable oil, CSB, salt and sugar).⁴⁹ WFP activities target the most food insecure areas of Burundi in 14 of 17 provinces (See map above).

Since 2010, USAID contributions to WFP have increased to reach more than 30 percent of all food aid distributed by WFP in Burundi. This is so, because USAID has shifted all the emergency food aid distribution to WFP. In general, and despite the importance of WFP country assistance, it reportedly suffers from limited funding,⁵⁰ which would likely affect future program execution (e.g., logistics to distribute food and resources to purchase food).

Food for Peace contributions significantly assist with WFP PRRO activities. For example:

- **Food aid to refugees.** FFP donates cornmeal, rice, yellow peas, vegetable oil and CSB to refugees in Burundi. During a pilot program with 27,000 refugees from the Democratic Republic of Congo (DRC), FFP provided CSB in four refugee camps. Currently, in-kind food aid continued in the Kavumu refugee camp in Cankuzo province.
- **Food aid to returnees.** FFP donates pulses, vegetable oil, CSB, and cornmeal to over 35,000 Burundian returnees from Tanzania. The distribution of commodities lasted for six months until June 2013.
- **Supplementary feeding centers.** FFP donated CSB and vegetable oil to 70,000 children and mothers with moderate acute malnutrition in eight provinces.
- **Emergency school feeding.** FFP donated maize meal, pulses, and vegetable oil for school meals to 95,000 children in four southern provinces that have the highest number of

Table 23. WFP Commodities Distributed in 2012 (MT)

Program	Activity	Maize Grain	Maize meal	Rice	Pulses	Veg Oil	CSB	Salt	Sugar	Total
Country	School lunch		3,128.4	277.1	915.7	228.8		68.4		4,618.4
	Assistance to vulnerable groups	30.8	103.9		24.2	79.0	601.9	0.0	35.4	875.3
PRRO	Refugees		2,939.1		997.5	188.0	433.4	34.9		4,592.9
	Returnees	570.1	0.0		169.2	38.6	107.5	6.4		891.7
	Institutional feeding	302.7	102.1		140.4	20.8	57.8	5.2		628.9
	Nutrition supplementation					91.6	771.5	0.0	33.7	896.8
Total		903.6	6,273.4	277.1	2,247	646.7	1,972	114.9	69.2	12,504

Source: WFP/Burundi, August 2013.

49 WFP, February 2013, *Programme de pays 200119 intervention prolongee de secours et de redressement - Avril 2013*; WFP, 2013, *Programme de pays 200119 Intervention prolongee de secours et de redressement - Juillet 2013*.

50 WFP, February 2013, *Programme de pays 200119 intervention prolongee de secours et de redressement - Avril 2013*; WFP, 2013, *Programme de pays 200119 Intervention prolongee de secours et de redressement - Juillet 2013*.

returnees from Tanzania. This program is scheduled to begin in September 2013. This donation constitutes a one-time emergency funding contribution to assist in the reintegration of Burundian returnees and their children from Tanzania.

3.6. EU

In 2013, the EU launched Project to Accelerate the Achievement of the Millennium Development Goals (*PROPA-O, Projet pour accélérer l'atteinte de l'Objectif du Millénaire pour le développement (OMD) 1c*). According to project documents, PROPA-O is funded at approximately US\$23 million (€18 million) and aims to reach Millennium Development Goal 1 (eradicate extreme poverty and hunger) and more specifically to “Halve, between 1990 and 2015, the proportion of people who suffer from hunger.”⁵¹ This project covers the main areas where malnutrition rates are highest, yet where there also exists the best potential for agricultural development: Bubanza, Bujumbura (rural), Bururi, Cankuzo, Cibitoke, Makamba, Rutana, and Ruyigi. Some activities in this project include marshland irrigation, production value chain development, nutrition education, and assistance to strengthen local health structures. The project will benefit approximately 20,000 HHs and 80,000 undernourished children.⁵²

The EU sponsors another program entitled, Program for Food and Nutrition Security in Burundi (PROSANUT), which was signed in 2012 and extends until 2017. With US\$10 million (€8 million) in funding, this program seeks to a) enhance and sustain the prevention and management of malnutrition at the community level; and b) promote self-production and access to food by vulnerable HHs, thereby increasing diet diversification. To achieve these goals the program works directly with the GoB to reach farmers organizations and promote Household Learning and Nutritional Rehabilitation (FARN, *Foyers d'Apprentissage et de Rehabilitation Nutritionnelle*) for the most vulnerable.⁵³ Main implementation areas include Cankuzo, Ruyigi, Rutana and Makamba.⁵⁴ PROSANUT and PROPA-O have similar objectives; the main differences are the geographic area covered under each project. Additionally, PROSANUT places more specific emphasis on malnutrition whereas PROPA-O emphasizes food security issues.

3.7. OTHER FOOD SECURITY AND NUTRITION INITIATIVES

IFAD. IFAD has four operational projects: two focusing on community development and rebuilding of post-conflict areas and two focusing on agricultural and husbandry economic

51 UN, 2008, Official list of MDG indicators. <http://mdgs.un.org/unsd/mdg/host.aspx?Content=indicators/officialist.htm>, accessed September 2013.

52 Europe Aid, 2012, *Burundi- Projet pour accelérer l'atteinte de l'Objectif du Millénaire pour le developpement (OMD)*.

53 The FARN program has the main objective of helping mothers prepare food with locally produced food and train lead mothers (referred to as *Maman Lumieres*) in mother care groups.

54 EuropeAid, 2012, *Programme pour la sécurité alimentaire e nutritionnelle au Burundi (PROSANUT)*.

growth. While these projects are not strictly nutritional or food security in nature, they do provide support to achieving food security objectives.

Table 24. IFAD Projects in Burundi

Project	Total cost (US\$)	Co-donors	Direct beneficiaries (HHs)	Duration
Value Chain Development Program	73.8	OPEC, WFP	75,500	2010-19
Agricultural Intensification and Value-enhancing Support	31.6	EU, WFP	30,000	2009-17
Livestock Sector Rehabilitation Support	17.8	-	100,000	2008-14
Transitional program of post conflict reconstruction	35.7	OPEC, Belgium fund for food security, GoB, beneficiaries	74,000	2006-14

Source: Created by USAID-BEST, based on IFAD, 2013, Rural poverty in Burundi.

By 2012, the Value Chain Development Program had educated more than 5,000 farmers on value chains and another 5,000 beneficiaries (70 percent women) on issues related to HIV/AIDS health and nutrition. In addition, this program has distributed inputs and training in quality seed multiplication to producers' associations, provided training under the livestock solidarity program to more than 1,500 beneficiaries, and built anti-erosion ditches on more than 2,500 hectares.⁵⁵ According to IFAD, the agricultural intensification and value-enhancing support project has already reduced extreme poverty by 7 percent and malnutrition incidence by 4.6 percent; moreover, IFAD cites increased incomes by an average of 64 percent in the areas in which the project has been implemented. The livestock sector rehabilitation support claimed to have reduced chronic malnutrition in the target area from 46 to 27 percent and severe malnutrition from 5.6 to 4.4 percent.⁵⁶ IFAD has also implemented WFP food-for-work and cash-for-work activities for rural infrastructure projects.

Global Agriculture and Food Security Program

(GAFSP). In May 2012, the World Bank approved a US\$30 million fund to support the National Agricultural Investment Plan (PNIA, *le Programme National d'Investissement Agricole*). This specific program focuses on improving water management and irrigation in drought-prone zones that are jointly implemented with IFAD. (See program map for specific locations.) The main objectives are: a) to increase availability and quality of food using agricultural intensification and diversification of production that would ultimately help increase productivity; b) to improve food security and reduce malnutrition among vulnerable population; and c) to effectively organize and integrate producers into value

55 IFAD, 2013, *Rural poverty in Burundi*.

56 IFAD, 2013, *Rural poverty in Burundi*.

chains that would increase their income. To achieve these goals, the project invests in improved technologies, productive assets, and farmer field schools.⁵⁷

3.8. LOCAL AND REGIONAL PROCUREMENT

In March 2013, WFP started a pilot program in Burundi to source foods locally and regionally. WFP purchased 1,128 MT of maize and 210 MT of beans in Burundi mostly from the provinces of Bubanza, Bujumbura Rural, and Cibitoke; the purchased commodities primarily support school feeding programs. Despite problems with quality control, post-harvest handling, and limited production to adequately satisfy WFP volume requirements, WFP is still seeking the continuation of this P4P-like program.⁵⁸

To move forward with the P4P initiative, WFP, with funding from the Government of the Netherlands, has studied the feasibility of promoting local production of maize and rice in the Rusizi plain, an area covering Burundi, Rwanda, and the DRC that is considered suitable for agricultural expansion. WFP estimates that if provided proper technical assistance the total farmland area comprised of 647.5 hectares of fertile land could yield enough surplus for WFP programs.⁵⁹

3.9. CASH AND VOUCHER PROGRAMS

In February 2013, WFP initiated a program in refugee camps that provided monthly vouchers of Burundian Francs (BIF) 20,000 (around US\$11) per person, along with a ration of CSB, to approximately 40,000 refugees from the DRC. As of August 2013, the monthly vouchers are still being distributed, but WFP has terminated the distribution of CSB rations due to some logistic issues. Registered refugees can redeem their food vouchers at a special closed market that takes place in each camp. Refugees can choose from cereals (rice and maize meal), cassava flour, pulses, oils (vegetable and palm), and salt. WFP contracts provincial traders who participate in the open market once a month. Overall, it appears that the voucher program has improved food consumption scores, diet diversity, and coping strategy indexes for refugees.⁶⁰

In addition, WFP implemented a small voucher program from October 2012-April 2013 in Kirundo Province. HHs received a voucher of BIF 30,000 in exchange for labor. The voucher could be cashed at local markets for food, and local traders were reimbursed via microfinance institutions. WFP plans to extend this model in the future.⁶¹

57 MINAGRIE, March 2012, *Global agriculture and food security program (GAFSP) Request from the government of Burundi*.

58 Personal communication with head of programs at WFP/Burundi, August 2013.

59 WFP, 2013, *Rapport de mission d'identification de potentielles organisations dans le cadre du développement des initiative des achats locaux (P4P-like) Burundi*.

60 WFP, June 2013, *WFP - UNHCR Joint operational evaluation of the combined voucher and in-kind food assistance programme for camp-based refugees in Burundi*.

61 E-mail communication with WFP, 2013.

3.10. USDA PROGRAMS

Currently, USDA does not fund programs in Burundi. The last food aid donation was in January 2009 when USDA shipped 3,500 MT of maize, 2,250 MT of yellow split peas, and 1,500 MT of vegetable oil for distribution among communities affected by conflict and recurrent shocks.⁶²

Under the USDA Micronutrient Fortified Food Aid and Products Pilot (MFFAPP), research was conducted in Burundi on the use of fortified rice. From 2010 until August 2013, through the National Institute of Food and Agriculture and the Food Aid Nutrition Enhancement Program, USDA supported the development of Ultra Rice®, a product developed by the Program for Appropriate Technology in Health. World Vision distributed this iron fortified rice paste as school lunch for children in the commune of Gasorwe in Myinga.⁶³

3.11. GOVERNMENT PROGRAMS

The GoB is in charge of setting the policy framework for all food security and nutrition programs. At the ministerial level, the Ministry of Agriculture and Husbandry leads the National Integrated Program for Food and Nutrition (PRONIANUT, *Le Programme National Intégré d'Alimentation et de Nutrition*), a policy framework under which all activities related to nutrition and agriculture have been implemented since 2009.⁶⁴

The Ministry of Public Health heads programs that include Vitamin A supplementation, folic acid for pregnant women, deworming, and iodine salt consumption and education. The Ministry of Health oversees the implementation of the *Programme de Nutrition a Assise Communautaire* (PNAC), which aims to promote health and nutrition through education. An important component of the PNAC is the FARN approach that trains lead mothers (*Les Mamans Lumiere*) in mother care groups.⁶⁵

The GoB receives most of the funding for food security and nutrition programs from international donors: USAID, World Bank, IFAD, WFP, the EU, the Government of the Netherlands, and the Government of Germany. In implementation of different programs, the GoB strives to coordinate with these partners.

62 The donation was under a Food for Progress award. E-mail communication with USDA-FAS, 2013.

63 USDA and Alberghine, P., May 2012, *Overview and update of the micronutrient-fortified food aid products pilot*; PATH and Wales, A., October 2010, *USDA grants PATH, World Vision \$1 million to fortify food aid in Burundi*.

64 UNICEF, 2013, *Analyse de la manutrition des enfants au Burundi*.

65 UNICEF, 2013, *Analyse de la manutrition des enfants au Burundi*.



CHAPTER 4

RECOMMENDATIONS FOR PROGRAM DESIGN

Subsistence agriculture is the main livelihood for most households in Burundi. Gitega, Burundi, August 2013.

Photo by Fintrac Inc.

4.1. INTRODUCTION

This chapter considers the various aspects of a potential Title II program in Burundi and offers recommendations as to the most appropriate intervention areas and the targeting options in the implementation of each program component to ensure they do no harm to local markets. To arrive at these conclusions, USAID-BEST consulted relevant secondary research and conducted meetings with government offices, United Nations agencies, nongovernmental organizations (NGOs), and donor representatives as well as visits to speak with beneficiaries and field project staff in several provinces.

Importantly, USAID-BEST provides recommendations in light of the Bellmon Amendment that requires assurances that a proposed development food assistance program would not result in a substantial disincentive to, or interference with, domestic production or marketing in a specified country. The extent to which distributed food aid might have such a disruptive effect on production and markets rests fundamentally on whether proposed food aid represents “additional consumption” for beneficiaries (i.e., food consumption that would not have occurred in the absence of the food aid distribution program). If food aid transfers exceed a household’s (HH’s) perceived needs, the beneficiary is more likely to sell the food aid, reduce market purchases of food, and/or increase HH farm sales. Such a response could lower market prices and/or

reduce local incentives for production.⁶⁶

An informed exploration of possible modalities and projects for the next Title II cycle requires a thorough understanding of food security conditions in Burundi. Therefore, the chapter begins by examining this context via the four pillars of food security and then transitions to a discussion on targeting, appropriate program types, food rations, local procurement, cash and/or vouchers, and finally, additional considerations related to program design.

4.2. OVERVIEW OF FOOD INSECURITY

During the decade-long civil war in Burundi (1993-2005) the population, especially those living in provinces bordering the Democratic Republic of Congo (DRC) and Tanzania, lost productive assets and non-productive assets (e.g., livestock, tools, housing materials). Consequently, the food security conditions deteriorated greatly. Despite steady improvements since 2006, the level of poverty, estimated at 67 percent in 2012, remains extremely high.⁶⁷ Even more alarming is the level of chronic child malnutrition, with a stunting prevalence rate for children under five (U5s) estimated at 58 percent in 2010, and reaching as high as 71 percent in some provinces like Ngozi

66 The complete distribution methodology for determining the potential impact of distributed food aid is available on the USAID-BEST website: <http://usaidbest.org/other-best-products.aspx>.

67 GoB, August 2012, *Burundi: Poverty Reduction Strategy Paper II*.

(which has a very high population density) -- the highest prevalence rate in all of sub-Saharan Africa.⁶⁸

This overview section takes the four pillars constituting food security -- availability, access, utilization, and stability -- and examines these characteristics in the Burundian context.

4.2.1 Availability

Small landholdings and low yields contribute to food production shortfalls and the inadequate availability of locally produced food in Burundi. With an average population density estimated at 326 inhabitants per square kilometer in 2013,⁶⁹ the average farm size stands at less than 0.5 hectares (ha). In provinces with the highest population densities, such as Bujumbura Rural, Kayanza, and Ngozi, many HHs now own tiny gardens of about 10 by 10 meters in which they cram a mix of crops such as bananas, cassava, sweet potatoes, and beans. As they need to continuously cultivate every piece of land available, farmers can no longer put their land to rest and restore through fallowing. Though with appropriate and sustained efforts, yields could significantly increase, fertilizers are too expensive for most farmers.

According to the Food and Agriculture Organization (FAO), over 60 percent of Burundians are no longer able to produce more than 1,800 kilocalories (Kcal) per capita per day (against daily requirements of 2,100 Kcal). Additionally, production of protein-rich crops, such as beans, soybeans and other categories of foods used to prepare nutritious and diversified diets has continued to decline, never regaining their pre-civil war levels.

4.2.2 Access

According to nearly all key informants interviewed during the USAID-BEST field visit, poor access to food is the primary contributing factor to food insecurity and high malnutrition. The main cause of this poor access is low purchasing power: When the price of food increases, it becomes difficult for HHs to cover these increasing costs and they are forced to resort to coping strategies to cover the gap. Common coping strategies include practices, such as reducing the quality and quantity of meals, that can have negative impacts on nutrition and health. Given that the average rural HH spends about 67 percent of its budget on food and are ill-prepared to deal with price shocks, these coping practices are not uncommon.⁷⁰

Burundi is a small country with relatively good road networks and generally well-integrated and competitive markets. USAID-BEST observed that the regional food markets in the north of the country, such as the ones in Kayanza, Kirundo, Muyinga, and Ngozi, were well supplied from in-country sources and from neighboring countries (Tanzania, Rwanda, or the DRC). Additionally, competition at wholesale and retail levels prevents traders from earning excessive margins.

68 ISTEEDU, May 2012, *Enquête Démographique et de Santé 2010*.

69 WFP, Juillet 2013. *Sécurité alimentaire et vulnérabilité au Burundi*

70 WFP, December 2008, *Comprehensive Food Security and Vulnerability Analysis*.

Factors external to Burundi occasionally impact the population's access to food - the country is highly dependent on trade for much of its food supply and is occasionally subject to the whims of its trading partners. Neighboring countries have implemented trade barriers at times to protect their own industries or to prevent emerging food security crises from worsening within their territory.⁷¹ Although members of the East African Community have pledged to remove custom duties for commodities produced within the zone, members frequently negotiate exceptions to their trade agreements; these loopholes can negatively affect access to necessary food items.

Another important factor contributing to the lack of cash is the weak industrial sector, which contributes to high unemployment, especially in cities.

4.2.3 Utilization

Nearly all provinces of Burundi suffer from high stunting rates (deficit in height-for-age), which nutritionists attribute to an insufficient content of protein-rich foods. This problem affects all wealth groups, though the poorest suffer the most.⁷² Mothers lack sufficient information about good nutrition and engage in poor feeding practices. And farmers in some regions, such as those in northern Burundi, will sell most of their bean harvest instead of keeping it for themselves as a protein supplement. Additionally, intestinal parasites are an important cause of poor utilization. The inability to properly intake food greatly contributes to malnutrition in Burundi and is the result of poor water and sanitation.

4.2.4 Stability

With at least two cropping seasons per year and staggered planting, Burundi should not have large inter-annual variations in agricultural production. Yet, because low production levels rarely allow rural HHs to stock grains or seeds on their farms as they did in the past, or to carryover stocks from year to year or season to season, the population is now greatly impacted by even relatively minor production fluctuations for reasons such as poor rainfall distribution, flooding or crop diseases. Poor harvests lead to shortfalls in buffer stocks which in turn cause prices to increase sharply and can become a major shock for a population already spending almost 70 percent of their meager cash incomes on food in an average year, and force them to resort to negative coping strategies, such as those mentioned above, in order to make due.

71 Some national governments have banned food exports or increased tariffs on selected commodities for precisely these reasons.

72 Although results of the 2008 CFSVA suggested "that the household level average monthly food expenditure, non-food expenditure and total food expenditure was lowest for stunted children compared to others." Source: WFP, December 2008, *Comprehensive Food Security and Vulnerability Analysis*.

4.3. TARGETING FOR FUTURE PROGRAMMING

To ensure food assistance does not harm local markets, there are a number of factors that decision makers should consider when determining who, where and when to target in the coming cycle of Title II food security activities. These include geographic, seasonal, and individual considerations.

4.3.1 Geographic Targeting

This section examines malnutrition indicators and other food security criteria to propose the most appropriate geographic areas for a new Title II cycle. Given chronic malnutrition's role as an effective indicator for a variety of problems related to nutrition and hygiene for families and their young, the geographic distribution of stunting rates for children under five (U5) serves as the prime criterion here, but other factors considered are poverty, vulnerability and population density.

Stunting. Chronic malnutrition is one of the best indicators for a variety of problems affecting families and infants - such as shortage of food, poverty, and poor hygiene and feeding practices. If a child lacks nutritious foods during the critical stages of physical and cognitive development, he/she will not meet his/her full mental and physical potential as he or she matures into an adult. This individual will be more disease-prone, less productive, less financially viable, more likely to have stunted children, and will be more predisposed to the cycle of poverty.⁷³

As noted above, the average rate of chronic malnutrition for U5s in Burundi was the highest in Sub-Saharan Africa in 2010 at an estimated 58 percent.⁷⁴ This is well above the World Health Organization (WHO)'s defined emergency threshold rate of 40 percent.⁷⁵ This national average is not constant throughout the country however. The 2010 Demographic and Health Survey (DHS) mapped the average provincial distribution of chronic malnutrition in country, showing that chronic malnutrition rates were highest in the north central part of the country, and in particular, in the provinces of Ngozi (71.2 percent), Karuzi (68.1 percent), and Ruyigi (66.2 percent).⁷⁶

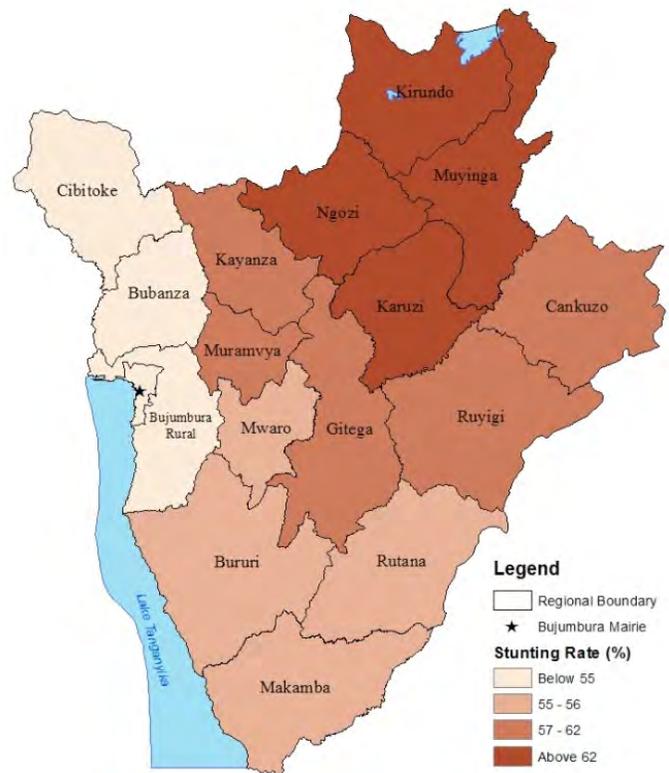
73 Bhutta, Zulfiqar, 2008, *What works? Interventions for maternal and child undernutrition and survival*.

74 ISTEERU, May 2012, *Enquête Démographique et de Santé 2010*.

75 UNDP Burundi Country Profile. Downloaded from <http://hdrstats.undp.org/en/countries/profiles/BDI.html>. All provinces but one, Bujumbura City, have prevalence rates above the WHO emergency threshold of 40 percent.

76 It is worth noting that the prevalence of underweight, another chronic malnutrition measure, does not exactly mirror that of stunting, as the three worse provinces were Ruyigi (44.5 percent), Ngozi (33.7 percent) and Rutana (33.7 percent).

Figure 15. Distribution of Chronic Malnutrition for U5s, 2012



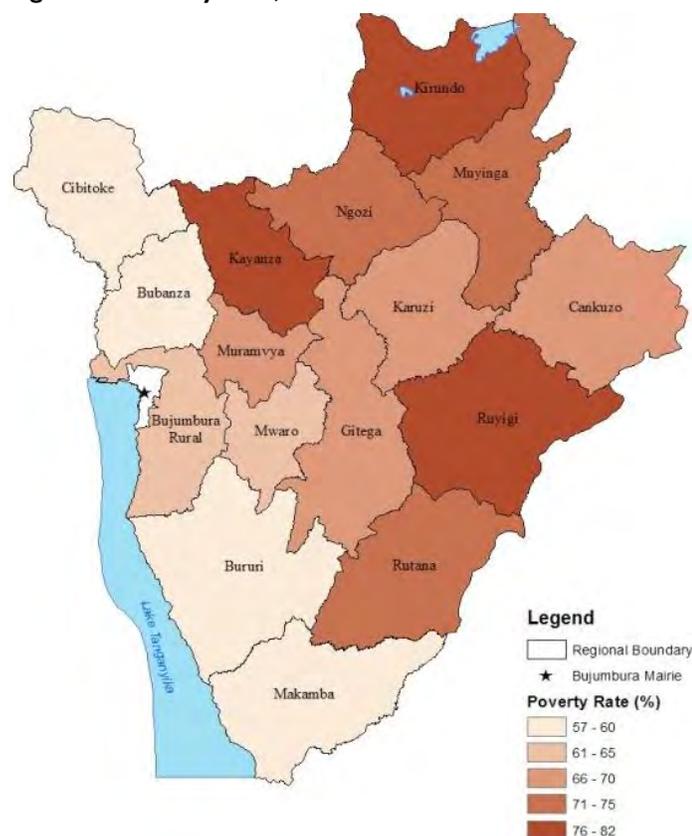
Source: Created by USAID-BEST, using WFP, *Analyse des données secondaires de la sécurité alimentaire, vulnérabilité et nutrition au Burundi*, Nov 2012.

Poverty. During the civil war period (1993-2005), the Gross Domestic Product (GDP) in Burundi dropped by 3 percent on average per year.⁷⁷ Since then the GDP has grown, but population has grown at a far faster rate so poverty rates remain high.⁷⁸ Poverty rates vary throughout the country, but exceed 56 percent of the population of every single region with the exception of Bujumbura Mairie (where only 28.7 percent of the population falls below the poverty line). There is a tendency toward higher rates in the East, as noted in the map on the next page.

77 UNDP, July 2010, *Objectifs du Millénaire pour le Développement*.

78 GoB, August 2012, *Burundi: Poverty Reduction Strategy Paper II*.

Figure 16. Poverty Rate, 2006*



Source: Created by USAID-BEST using IMF, Burundi: Poverty Reduction Strategy Paper—Annual Progress Report, March 2009.

Although the poverty rate is exceptionally high throughout the country, it remains above 75 percent in four regions: Kirundo (82.3 percent), Ruyigi (76 percent), Kayanza (75.5 percent) and Ngozi (75.4 percent). Poverty rates for all provinces in Burundi are listed in the following table.

Table 25. Poverty Rates in Burundi (Percentage of Population)

Province	Poverty Rate
Bubanza	57
Bujumbura Mairie	28.7
Bujumbura Rural	64.3
Bururi	56.7
Cankuzo	67.7
Cibitoke	59.5
Gitega	68.2
Karuzi	68.9
Kayanza	75.5
Kirundo	82.3
Makamba	57.3
Muramvya	70
Muyinga	70.5
Mwaro	61.5
Ngozi	75.4
Rutana	72.9
Ruyigi	76

Source: IMF, Burundi: Poverty Reduction Strategy Paper—Annual Progress Report, March 2009
 Note: According to official GoB data, the last time poverty was assessed was in 2006. In that survey, the poverty line was approximately Burundian Franc (BIF) 627 per day per adult equivalent for urban areas, and BIF 525 per day and per adult equivalent for rural areas. GoB, March 2009, Burundi: Poverty Reduction Strategy Paper- Annual Progress Report.

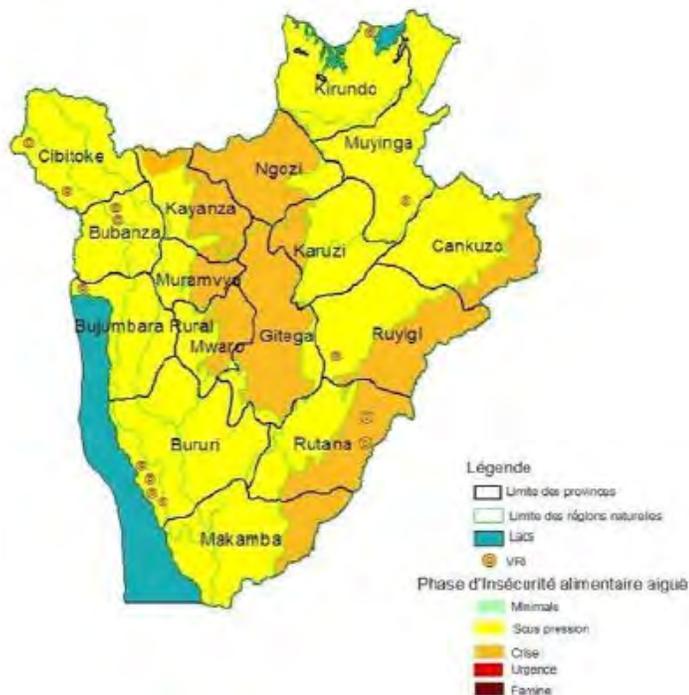
Vulnerability. The civil insecurity experienced during the country’s civil war was the single most serious shock of the last two decades, but since peace was declared in 2007, the most frequent food security shocks have been related to climate (irregular rain) and crop diseases. The best and most comprehensive means of measuring vulnerability to these and other shocks is currently the Integrated Food Security Phase Classification (IPC).⁷⁹

In recent years, the most severe category for Burundi has been IPC Phase 3, which corresponds to food security and livelihoods crises. The lower altitude, border communes in the eastern and northeastern region (Makamba, Rutana, Ruyigi, Cankuzo, and Kirundo provinces) have been classified under IPC Phase 3 nearly every year since 2008.

The high level of insecurity in these regions is attributable to a variety of factors, including rainfall anomalies, crop diseases, high food prices, livestock diseases, and erosions/landslides. However, an ongoing road improvement effort is increasing food supply in this area in times of production shortfalls and should have a mitigating effect on overall food insecurity.

⁷⁹ The food security and early warning community in Burundi adopted the Integrated Food Security Phase Classification (IPC) in 2009 to consider in its vulnerability assessment all factors negatively affecting the current well-being of the population and to more objectively determine the vulnerability status. At the end of every crop season, a multi-sectoral evaluation team releases a consensual food security and vulnerability report with accompanying IPC classification map. The mapping and description of zones with similar livelihoods in 2012 has improved the analysis of food insecurity and vulnerability conditions in Burundi.

Figure 17. IPC January - June 2013



Source: Burundi – Aperçu de la situation de l'insécurité alimentaire aiguë 2013A.

In July, the Ministry of Agriculture and its partner UN organizations also classified the entire Humid Plateaus (HP) livelihood zone⁸⁰ under IPC Phase 3. In that zone, 64 percent of the population had poor to marginal food consumption. This recent assessment suggests that the following provinces are the most vulnerable: Ngozi, Gitega, and Kayanza.

Population density. Given the high prevalence of chronic malnutrition, poverty, and vulnerability to insecurity, a food security program should take into consideration the extent to which it can reach the population to address those concerns in its areas of activity. A program working efficiently can be assumed to reach a greater number of people more easily in zones with high population density than in areas with a low population density.⁸¹ Population density is a particularly important consideration for preventive MCHN programming since only a very small percentage of the population will be eligible for such a program.

80 Though endowed with a climate favorable to production of a rich variety of food, cash crops (sweet potatoes, maize, beans, cassava, banana, coffee, and avocados), and livestock, the HP livelihood zone faces the challenge of extremely high population densities, soil erosion, and crop and animal diseases. This livelihood zone comprises a substantial portion of a number of different provinces, including Ngozi province (80 percent), Kayanza (60 percent), Karuzi (30 percent), Gitega (about 80 percent) and Muramvya (about 50 percent).

81 Indeed, WFP cites high population density as one of the main factors contributing to Burundi's vulnerability to food insecurity: the country's high population density, along with the country's undiversified economy (which relies heavily on the country's limited natural resources), its high population growth rate, and high dependency ratio. WFP, December 2008, *Comprehensive Food Security and Vulnerability Analysis*.

The three provinces with the highest population numbers per sq. km in 2009 were: Bujumbura Rural (523 inhabitants), Kayanza (459), and Ngozi (459). Many communes⁸² in those provinces have average population densities well over 600 inhabitants per sq. km. Given a national average density estimated at 326 inhabitants per sq. km, and an average farm size of just 0.5 ha,⁸³ even with the food security and agricultural development donor interventions the domestic food production alone cannot meet needs.

Summary of recommendations for geographic targeting. Based on the criteria above, indicators for Ngozi province suggest Title II food assistance would represent additional consumption for a large number of households. The province has the highest stunting rates for children under two years of age (U2s) and is among the most densely populated and most vulnerable provinces in country according to the 2008 Comprehensive Food Security and Vulnerability Analysis (CFSVA).⁸⁴ Assuming a program is well-targeted, food assistance should not substantially disrupt the market. Additionally, Karuzi and Kayanza should also be considered as potential options - these districts have high rates of stunting, poverty, and/or vulnerability.

Note that a new Title II program should strive to narrow its geographic focus so as to have a stronger and more sustained impact, especially in those challenging provinces that require more operational oversight and monitoring. However, condensing food aid distributions in a smaller geographic area could distort the market and have a greater negative impact on production or marketing in those areas (which are Bellmon concerns). It is thus imperative for implementing awardees to monitor markets throughout their activities and adjust distributions appropriately, if necessary.

Program overlap and coordination. Since major food security projects funded by other donors often work in several communes within the same provinces, Title II should strive to coordinate with other projects, umbrella ministries, and provincial directorates that are active in their zone or zones of activity in the next program cycle. (See Chapter 3 for a summary of those projects.) A number of informants believed that a more proactive government could lead project coordination. Specifically, the provincial and communal administrations should be empowered to play a more significant role in coordinating project activities in the field.

The next Title II cycle should especially synergize with the ongoing IFAD and World Bank projects already in communes of select provinces (e.g., Ngozi) and with the upcoming USAID Integrated Health Project. It should also work closely with the

82 A commune is the next administrative level, after provinces. A typical province may have 5 or 6 communes. The communes are themselves subdivided into "collines de recensement" (literally translated as "census hills," and which are typically referred to as "collines,"), which constitute the last administrative level. There are also about 8 'hills' per commune.

83 WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

84 WFP, July 2008, *Vulnerability and food insecurity in three urban areas of Burundi*.

coordinator of the Scaling Up Nutrition (SUN) movement and the National Nutrition Cluster.

4.3.2 Seasonal Targeting

This section examines the prospects for seasonal targeting and offers recommendations as to the proper mechanisms for beneficiary targeting in the zone of intervention. These include seasonality of production, marketing, and labor.

Seasonality of production. Given the access and availability issues addressed above, seasonality of production should be taken into account when considering food security activities and when they should be implemented (or emphasized) in Burundi.

Burundi has three main crop growing periods (see Chapter 2 for more details). Season A, occurring from September-December, accounts for about 35-40 percent of annual production. Season B, which takes place from January-June, is the main agricultural season and accounts for approximately 50 percent of production. Season C, is a third season which is only available to those lowlands where irrigation is available. Where available, it takes place from June-August and accounts for about 10-15 percent of annual production.⁸⁵

With extended lowland improvement and crop production intensification, food harvesting takes place nearly all year round. Moreover, planting and harvesting are relatively staggered, within and among regions, which allows some supply of fresh harvest throughout the year. Especially in densely populated areas in the HP zone, some major food staples are grown as perennial or semi-perennial crops (e.g., bananas and cassava) and harvested throughout the year.

During the lean seasons of September/October-November and February/March-April/May, cash-for-work (CFW) and food-for-work (FFW) activities should be intensified, given that prices generally increase in these periods and this can exacerbate food access and malnutrition issues.

Seasonality of marketing. Due to the staggered planting and harvesting, the marketing seasonality is not as pronounced as in mono-modal production systems encountered in some other countries. However, concerns related to food security programming follow a similar calendar as that for seasonality of production, as locally produced foods become nearly depleted and prices increase far beyond what the poor can afford during the lean periods for Season A and Season B, as noted above.⁸⁶

The poor tend to sell their production shortly after harvests (i.e. around June and when the prices are still low), in order to

85 Note that Season C's contribution to production is gradually increasing due to an expansion in the acreage where it is practiced, as well as an improvement in yields for those crops grown under irrigation. This is particularly true in the HP livelihoods zone.

86 A road modernization program under way in the provinces of Cankuzo, Karuzi, and Ruyigi, should render those provinces less isolated and help improve the food supply, thereby mitigating some of the impact of the lean season on commodity prices.

cover their basic needs and pay debts. This practice concerns public health practitioners; during field interviews, several explained that producers often sell protein-rich staples such as beans to buy less nutritious foods (or alcohol) rather than store them at home for later sale or consumption when prices are higher. This practice, combined with inadequate calories and poor sanitation, reportedly explains in part the high child malnutrition rates in the country. USAID and awardees should take this into account when designing program activities.

Coffee, the main cash crop in the HP zone, is harvested around May-June and marketed in July-August when it provides cash to buy food and/or other HH essentials.

Seasonality of labor. In rural areas, the demand for farm labor increases at planting time, but given the high population densities and small farm sizes there is always an excess supply of labor that the local agricultural sector cannot absorb. Especially in densely populated areas, demand for work outpaces job opportunities.

According to the 2008 CFSVA, migration was most common in Ruyigi (54.3 percent), Bujumbura Rural (43.7 percent), and Kirundo (42.3 percent). About 1/3 of HHs surveyed reported having a member that worked or looked for work outside of the *colline*⁸⁷ in the last six months. Migration to urban areas was most frequent in Bujumbura Rural (43.5 percent), Mwaro (40.2 percent), and Gitega (38.9 percent) while migration to another country was more prevalent in border provinces of Cankuzo (58.8 percent), Rutana (30.7 percent), and Kirundo (30.2 percent). The CFSVA showed that migration increased at planting times (January-February and September-October).

Recommendation with respect to seasonality. Given the considerations for seasonality of production, marketing and labor, it appears that the forthcoming program implemented by USAID and awardee(s) should take into special consideration the lean periods for the food security activities.



Photo by Fintrac Inc.

The Title II PM2A program intends to prevent early childhood malnutrition and improve long term outcomes for the next generation. Burundi, August 2013.

87 *Colline* translates to hill, which is a community or a village.

Table 26. Periods of concern related to different aspects of Seasonality

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Lean Seasons*	X	X	X	X		X	X	X	X			
Production		X	X	X			X	X	X			
Marketing		X	X	X	X		X	X	X	X		
Labor	X	X			X	X						
Period of heightened concern	X	X	X	X	X	X	X	X	X	X		

Source: Created by USAID-BEST.

*Generally, the main lean season in Burundi is from September-December. There is also a lean period from February-March, coinciding with the planting and growing season before the Season B harvest time. July and August are the months with greater food availability.

4.3.3 HH / Individual Targeting

This section analyzes the targeting practices of ongoing food security projects and suggests the appropriate approach that a future Title II program should take in undertaking this process. Relevant recent program types have included Maternal Child Health and Nutrition (MCHN) projects as well as agricultural development programs.

MCHN. USAID has implemented two different types of MCHN programs in Burundi in the 2009-14 cycle of funding. The Multi-Year Assistance Program (MYAP) takes a curative approach addressing the effects of food insecurity after it has already occurred, and the Preventing Malnutrition in Children Under Two Approach (PM2A) program seeks to prevent food insecurity.

MYAP (2009-12). The MYAP targeted HHs with malnourished children with a curative approach. This MYAP worked in three provinces using a multi-sectorial approach focused on food security. MYAP activities that focused on nutrition included: 1) practicing optimal infant and child feeding practices; 2) developing kitchen gardens for dietary diversity and income generation; 3) instituting sound health and nutrition practices and behavior changes through care groups and the Positive Deviance/Hearth methodology,⁸⁸ along with the training of health officials; and 4) promoting appropriate hygiene and sanitation practices.

PM2A (2010-14). The current USAID PM2A project in Cankuzo and Ruyigi uses a preventive approach to child malnutrition that focuses on the first 1,000 days (conception through the age of two years). *Tubaramure* (the program name, as it is known in the local language) uses a three-pronged approach to: 1) improve access by women and children to quality health services; 2) encourage households to practice appropriate health and nutrition behaviors; and 3) increase the intake of diverse foods via supplementation with Title II commodities. In the intervention, *collines* are randomly selected to receive food assistance, all pregnant and lactating women, and all HHs with

88 Positive Deviance/Hearth methodology is a community-based rehabilitation and behavior change intervention for families with underweight children. The 'positive deviance' approach is used to identify positive behavior by mothers of well-nourished children and transfer those practices to other HHs. The 'Hearth' is referred to as the location for the nutrition and feeding practices-related training sessions. The FARN uses the PD-Hearth approach.

infants and children under two (U2s) children receive individual and family size rations. All *collines* within Ruyigi and Cankuzo are included in the program, with the exception of the 15 study control *collines*.⁸⁹ For more details on the PM2A project, please see Chapter 3.

During field interviews, several key informants from the Ministry of Health and major food security projects⁹⁰ expressed concern about the sustainability of and ability to scale up the current PM2A. Those informants also contended that the approach is aggravating dependency on the part of the population toward food assistance programming, which developed during the conflict and post-conflict period. It should be noted, however, that beneficiaries themselves do appear to be happy with the approach, although the women living in non-selected hills were upset by their exclusion.⁹¹

Agricultural development. These types of programs, implemented by IFAD and the World Bank, have grouped potential beneficiaries into wealth categories (mainly based on landholding size) by community and then designed interventions for each category. Their programs then sub-contract a local NGO to closely supervise the community-based targeting, which appears to do an effective job of limiting risks of local authorities manipulating the process for their own benefit.

Future development food assistance program. Activities in the next cycle of food security programming should target pregnant and lactating women and U2s. given the importance of the first 1,000 days of a child's life in averting the consequences of chronic malnutrition, as noted above. The program should strive to prevent malnutrition with food assistance rations in addition to identifying severely malnourished children and sending them to local health centers for recuperative support.

The agriculture intensification component of a future Title II program would benefit from review of the targeting mechanism used by programs such as the current IFAD food security programs.

89 Parker, Megan, Leroy, J. L., et al, May 2012, *Strengthening and evaluating the preventing malnutrition in children under 2 approach (PMSA) in Burundi: baseline report*.

90 Personal communication with GoB and NGO personnel, August 2013.

91 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

4.4. ACTIVITY RECOMMENDATIONS FOR FUTURE PROGRAMMING

Given the multifaceted nature of food insecurity in Burundi, the new Title II program should address food insecurity and malnutrition through an integrated, multi-sectorial approach. Specifically, the next Title II program should focus on the fundamental and proximate causes of chronic malnutrition in children, particularly U2s.⁹² The main goals should include reducing malnutrition and increasing crop yields and livestock production. In order to address the primary issues of access and availability of food, the program should include: 1) MCHN, 2) water, sanitation and hygiene (WASH), 3) agricultural development, and 4) income generating activities (IGAs).



Photo by Fintrac Inc.

Although Burundi produces a variety of pulses, importation of pulses for a Title II development program would not create substantial disincentives for local production or marketing. Nyanza-Lac, Burundi, August 2013.

4.4.1 MCHN

Key stakeholders from the Ministry of Health, UNICEF, and the local administration agree that the Positive Deviance/Hearth methodology approach used in the previous MYAP significantly reduced child malnutrition in a cost-effective, scalable, and sustainable manner. Given its effectiveness, the next cycle of Title II MCHN programming should continue with a similar approach.

Currently, under the PM2A, a Care group model is used. The practice relies on volunteer lead mothers who receive training on proper health care and in turn teach and mentor a group of 10-12 other mothers in the community on improved feeding, health, and care practices. Local administrations/communities

⁹² The first 1000 days of a child's life constitute the most crucial period during which malnutrition should be avoided, as the damage caused to body and brain during that period are irreversible; that is why they are called the 1000 days' window of opportunity.

identify the lead mothers as those women who have managed to keep their children healthy and well-nourished. It is essential that the project recruit highly-trained and experienced nutritionists to lead and monitor this program. The group of women then utilize anthropometric tools such as scales and length boards to identify malnourished children in the community and help restore their health and nutrition condition with care practices and, if needed, referrals to health centers.

Any new Title II program should take lessons learned from the Positive Deviance/Hearth model and the Care group model, possibly integrating the two.

Additionally, a MCHN program should consider educational activities in family planning, since family size and birth spacing are factors of infant malnutrition. Contraception services are free in Burundi and widely available across the country. This practice, and others like it, should be replicated.

4.4.2 WASH

In order to address utilization issues, a Title II program should promote appropriate behavioral change among mothers, such as the adoption of basic hygiene (e.g., hand washing with soap) to prevent diarrhea. More education is also needed around the use of mosquito nets to reduce the incidence of malaria. Potable water sources are generally available near homesteads in most of the country, however, FFW could be used to construct potable water systems and latrines and further improve hygiene.

4.4.3 Agricultural Intensification

Given the scarcity of land in the proposed target areas and low levels of production throughout the country, the agricultural component of a Title II program should focus on intensification of crop and animal production. The project should further expand the acreage under improved marshlands and promote a greater use of better inputs (seeds and mineral fertilizers). Moreover, it should include a value chain approach for selected commodities since Burundi faces severe constraints at the processing and marketing levels. The following crops, given their importance as staples and as sources of income, may be considered value chain options in a Title II agricultural development component:

- **Beans**, which are a main source of protein in the proposed intervention area.
- **Bananas**, which constitute the most prevalent food and cash crop, are in high demand. Further, a processing plant was recently installed in Ngozi to produce banana juice and beer so demand in this province will increase.
- The plant mentioned above also has a **pineapple** juice line, and in neighboring Rwanda a juice processing plant provides a ready market for **passion fruit**.
- **Vegetables** are often missing from diets.
- **Cow milk and other high protein content foods**, such

as⁹³ goat meat, or poultry/eggs, greatly contribute to nutrition but are currently at low levels of production. However, the poor could raise small livestock (goats), pigs, and poultry with their small plots of land.

- **Rice** currently adds the most value to improved marshlands.⁹⁴

Title II should also provide support via extension services (using model farms, facilitating study tours for more advanced farmers in other regions of the country or in neighboring Rwanda, etc.) and links to input suppliers in the selected value chains.

Future programming could additionally lend assistance through the development of nascent warrantage programs;⁹⁵ in this manner, farmers could keep their harvest longer in order to get more remunerative prices.

Lastly, in order to achieve a sense of buy-in from local consumers and businesses, as well as increase the likelihood that activities will continue once the program ends, Title II partners should encourage the private sector to participate in input supply and in the delivery of various other services (e.g. vet services).

4.4.4 IGAs

Non-agricultural or IGAs requiring little or no land should be promoted given the scarcity of land in Burundi and the inclination of the youth to search for occupations outside agriculture. IGAs may include petty trade, masonry, carpentry, artisanry, food processing, etc.

Title II could assist targeted associations (chamber of commerce, farmer associations, youth groups, etc.) in the community to better prepare them to receive micro-finance support. Training and mentoring, including in management and marketing, would constitute important project activities and would help meet the needs of young entrepreneurs. Additionally, the Title II project awardee should support a warrantage program, in collaboration with a partner micro-finance institution, in order to break the vicious cycle whereby the poor must sell their harvests when the prices are the lowest to pay back usury loans taken during hunger periods.

93 The USAID funded PAIR project, implemented by DAI and terminated in 2012, equipped two milk collection centers in Rutegama (Muramvya Province) and Bugendana (Gitega Province) with 3,000 and 1,000 liter capacity tanks to facilitate the short-term conservation of milk in areas of rapid milk production due to high-milk production breeds previously distributed by FIDA and World Bank. As the capacity of those tanks reaches its limit, producers may lose the incentive to increase milk production.

94 The International Rice Research Institute is reportedly planning to install a major international research center in Burundi.

95 A warrantage is a short-term loan provided by a microfinance organization to farmers against an agreed upon quantity of harvest stored in a warehouse as a guarantee. With that loan, they do not need to sell right after harvest to pay off their debts or meet their other urgent needs, and can wait to reimburse the loan when prices have gone up.

4.4.5 FFW

FFW projects could be implemented, constructing roads and irrigation canals to complement the agricultural development and value chain activities. Hunger (lean) periods peak around October-November and March-April. During that period, FFW activities should be intensified, given that increasing food prices can exacerbate food access and malnutrition issues.

4.5. COMMODITY SELECTION FOR FUTURE PROGRAMMING

The following section examines current commodities distributed for development food assistance programs in Burundi and offers recommendations as to appropriate commodities for future Title II awardees to consider in the next programming cycle. The table below details the ration distributed under PM2A and previously distributed in the MYAP program (ended in August 2012).

Table 27. USAID PM2A and MYAP Ration Size

Program	Commodity	Quantity per month	Target beneficiaries
PM2A	CSB	12 kg	Household
	Vegetable oil	1,200 g	Household
	CSB	6 Kg	PLW
	Vegetable oil	600 g	PLW
	CSB	3 kg	U2
	Vegetable oil	300 g	U2
MYAP*	Lentils	10 kg	FFA
	Soy-fortified cornmeal	30 kg	FFA

Source: Parker, Megan, Leroy, J. L., et al, May 2012, Strengthening and evaluating the preventing malnutrition in children under 2 approach (PMSA) in Burundi: baseline report.; 2009 USAID-BEST Burundi report.

*The MYAP had other programs besides FFA in which food aid rations were distributed.

Beneficiaries of the PM2A program stated that the rations complemented their consumption and helped them achieve a full daily diet. Since a market for CSB and refined vegetable oil (RVO) does not exist (due to their high prices for average consumers) beneficiaries interviewed reported that they consume all the food received. These statements corroborate USAID-BEST observations of local markets; the team found that most consumers cannot afford blended cereals and RVOs, particularly in Cankuzo and Ruyigi, two low-income markets.

USAID-BEST believes that the various program components could distribute different commodities. Therefore, given limited domestic production and beneficiary purchasing power, a FFW/ FFA ration could include:

- **Pulses.** Yellow split peas and pinto beans could better complement the overall nutrition value of rations in a well-targeted program. However, it should be carefully targeted

during its lean season to avoid affecting local production and prices during harvest time.

- **RVO.** Though Burundians consume mostly palm oil, this unrefined product does not provide much nutrition and the food safety standard quality remains poor. Lack of vegetable oil consumption is most likely due to its high cost on the market rather than a strict preference in taste.
- **Soy-fortified cornmeal or soy-fortified bulgur.** Either of these two products would complement the nutritional value of a ration and could be blended with other cereals to make porridge.

An MCHN ration could include:

- **CSB.** Beneficiaries are familiar with cereal blends, but average and low-income HHs cannot afford to buy all the ingredients. Therefore, transoceanic in-kind CSB is appropriate for distribution.
- **RVO.** RVOs are an important nutrition source for lactating mothers and children. Distribution under a well-targeted program would not disrupt local markets.
- **Pulses.** Yellow split peas and pinto beans would complement the nutritional value of a ration; to protect the production of local beans, extra care should be taken to ensure consumption by intended beneficiaries.

4.6. LOCAL FOOD PROCUREMENT THROUGH CASH, VOUCHERS, AND DONOR PURCHASES

At the current level of production in Burundi, any **large local purchases of food** will likely have a negative effect on the market. Since USAID requires significant volumes, such an action would lead to a sudden increase in demand that could cause market prices to spike considerably and therefore disproportionately affect poor consumers. In addition, USAID would be competing for local supply with the current WFP implementation of a P4P-like program. However, in the future, USAID and Title II partners should consider supporting the fortification of refined palm oil to further encourage GoB efforts to expand and improve locally produced palm oil. The GoB plans to significantly increase palm oil production in the coming years and is actively working with processors to improve RVO quality and safety standards.

However, if USAID and Title II partners invest in specific value chains that require small improvements to increase production, such as rice, then beneficiaries could purchase these commodities via cash and/or vouchers.

Though no food assistance projects in Burundi have experimented with **cash transfers, future Title II awardees could pilot a small-scale program that utilizes this modality.** Any such project should be carefully monitored as several key informants in the donor community believe that HHs would use cash for non-intended purchases; also, a remittance to women alone could lead to contention with their

husbands.

On a similar small-scale level as the cash transfer program, the next Title II cycle could include a voucher component. **Food vouchers** have not been widely used in Burundi, but WFP/Burundi has distributed vouchers tied to rice, cassava, and beans for its refugee programs. Future awardees could draw from the lessons learned by WFP to inform the design of a Title II voucher system. However, since WFP has only engaged in the utilization of vouchers in a closed environment, awardees should also take into consideration how NGOs have designed larger-scale vouchers for the provision of improved seeds even though such a program is not specifically tied to commodities.

4.7. ADDITIONAL CONSIDERATIONS FOR PROGRAM DESIGN

To enhance **program coordination across donors and other implementing partners and organizations at the field level**, an institutional body at the national and provincial level could provide the requisite capacity and brick-and-mortar location for such a task. **Title II awardees could consider financially supporting a central government coordination unit to develop required policies that would improve child nutrition, such as regulations for food fortification.** At the field level, the program could strengthen the communes' skills in planning, program coordination, and good governance.



Photo by Fintrac Inc.
Households rely on production and market purchases to meet their daily food needs.
Burundi, August 2013.



A field of wheat in Kayanza is pictured. Kayanza, Burundi, August 2013.

Photo by Fintrac Inc.

CHAPTER 5 MONETIZATION FEASIBILITY ANALYSIS

5.1. INTRODUCTION

This chapter examines the feasibility and appropriateness of monetization in Burundi in Fiscal Year (FY) 14. It covers four critical inquiries:

- How appropriate is monetization for Burundi under any new Title II development food assistance program in FY14?
- If monetization is appropriate during this period, which commodities are the most appropriate to monetize?
- What is the approximate maximum tonnage feasible for monetization for each commodity?
- Are there special considerations (e.g., sales platform or timing of sales) that should be taken into account when considering/undertaking monetization in Burundi?

As of September 2013, Burundi has a stagnant, undiversified economy based primarily on subsistence agriculture. A lack of foreign exchange makes it difficult for domestic businesses to operate on the international market, and consumer purchasing power is dropping. The following analysis takes into account these challenges. To inform program design, private voluntary organizations (PVOs) and USAID should closely monitor the development of these market conditions as they may have evolved since the USAID-BEST field visit.

The USAID-BEST Methodology for Determining Impact of Monetized Food Aid is available at:
<http://www.usaidbest.org/docs/BESTMonetizedMethodology.pdf>.

5.2. INITIAL COMMODITY SELECTION

Based on desk review of available trade statistics, previous market analyses, other relevant country reports, and interviews with key informants and consultation with the USAID mission, USAID-BEST eliminated rice because of the political sensitivity surrounding the crop and a number of other commodities (e.g., edible oil and maize grain). Instead, the following analysis will focus solely on wheat grain as the most viable candidate for monetization.

Per USAID-BEST methodology, wheat was subject to six “tests”:

1. Eligibility for export from the US;
2. Eligibility for import to Burundi;
3. Significance of domestic demand;
4. Whether domestic supply shortfalls are filled through commercial imports;
5. Presence of adequate competition for the commodities; and
6. Expectations that fair market prices can be achieved.

Test 1: Eligibility for export from the US. Wheat is included on the Food for Peace (FFP) commodity list for FY14.

Test 2: Eligibility for import. Wheat grain is eligible for import in Burundi, and there are no phytosanitary concerns that

would prevent US-varieties of wheat from entering the country.⁹⁶

Test 3: Significance of domestic demand. Local dietary preferences and market conditions suggest that there is a significant consumption of products made from wheat and wheat flour. Domestic demand is estimated based on the five-year supply trend equal to production plus net trade.

Test 4: Commercial import activity. Goods selected for in-depth study do not have sufficient domestic production to meet domestic demand; demand must be met via imports. This situation is the case for wheat, where the domestically produced good cannot meet the needs of the milling sector, and where millers currently import more than four times domestic production for their flour production.

Tests 5 and 6: Competition and Fair Prices. The absorptive capacity of local markets, as well as the volumes recommended for sale, will be based on an analysis of local market competition (which must be adequate - Test 5) and prices (which must be fair - Test 6). The sections below explain in detail these aspects of the analysis.

5.3. MACROECONOMIC CONDITIONS

Following years of insecurity, Burundi's economy, based primarily on subsistence agriculture, remains stagnant and faces a shortage of foreign exchange. The country has had an average monthly trade balance of approximately Burundian Franc (BIF) 31 billion since 2006,⁹⁷ and exports, composed in large part of coffee and tea,⁹⁸ account for only a small percentage of gross domestic product (GDP).⁹⁹ While GDP has been growing at four percent since 2009, real per capita GDP increased by only 0.9 percent from 2007-09, primarily due to the insecurity and the low wages available.¹⁰⁰ There has been a drop in consumer purchasing power in recent years with inflation averaging 14 percent over the last five years.¹⁰¹

96 While the Government of Burundi (GoB) does not bar imports of Genetically Modified Organisms (GMOs), they must be declared upon importation. Wheat is not a GMO crop, so this aspect is not a consideration for its use as a food aid commodity. However, USAID and future awardees should note the required declaration for importing other commodities, such as soy-fortified commodities, for distribution.

97 Personal communication with key stakeholder, August 2013.

98 Coffee alone accounts for more than 60 percent of total annual export revenue. World Bank, 2012, Burundi Overview. <http://www.worldbank.org/en/country/burundi/overview>, accessed September 2013.

99 African Economic Outlook, I3 A.D., Burundi Country Notes, 2013. <http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/2013/PDF/Burundi.pdf>, accessed July 2013.

100 IMF, August 2012, *Burundi: Poverty Reduction Strategy Paper II*.

101 World Bank, Inflation, consumer prices (annual %), <http://data.worldbank.org>, accessed July 2013.

5.4. WHEAT GRAIN

5.4.1 Overview of Demand and Supply

Demand. Although wheat is a staple food crop in Burundi, it is not a primary one. Production and consumption of domestically grown wheat grain in Burundi is generally limited to the relatively small area of wheat production in the highlands in Muramvya and Kayanza provinces and some parts of Bururi Province.

There are two general categories of wheat products consumed in Burundi: those consumed from local wheat and those consumed from imported wheat flour. Domestically produced wheat grain appears to be available primarily in markets within the wheat growing region in-country, whereas wheat flour and bread products are available mostly in urban areas. Key informants across the wheat sector note that the already low purchasing power is decreasing.

Locally produced wheat is consumed primarily as a staple food known locally as *ugali*,¹⁰² as well as a porridge-like product called *ubuyi*, which is frequently considered a nutritious dish for children. In wheat producing areas, wheat is also occasionally milled locally and made into a bread that is generally considered healthier than standard bread available on the market, and good for senior citizens and diabetics. Additionally, in rural areas where access to urban markets is difficult, bread from local wheat is appreciated because it has a longer shelf life than wheat from industrially milled wheat flour, although it must be blended with imported wheat in order to produce bread to the commercial standards demanded by the general market.

Industrially milled wheat flour is mostly used to produce bread-like products for the market that are seen as a type of breakfast food (e.g., rounded loaves of bread, rectangular sliced bread (*pain coupé*), baguettes, etc). *Pain coupé* sells on the market in loaves of different sizes, varying in cost from BIF 1,500-2,500 depending on the size. Another significant, though much smaller share of the market, is *beignets*: mildly sweet fried bread that is similar to donuts but in a small ball or loaf-type shape typically sold in a bag of 10-12 at approximately BIF 100 per piece.

Products from imported wheat are generally consumed in the form of bread and pastry products in urban and semi-urban areas by the middle class. Typical consumers of these items have greater purchasing power than those living in rural areas.

The following table presents the evolution of supply from 2006-12. Total supply has risen dramatically over the period, driven primarily by the strong growth of imports for the ever-growing milling sector. As of 2012, supply stood at approximately 56,366 metric tons (MT), more than double the five-year average from 2007-11. Informants within the milling sector placed total domestic demand at approximately 40,000 MT, however, and foresaw domestic market growth to be about 5 percent. Excess supply appears to serve external markets.

102 A starch-heavy product of dough-like consistency very similar to *fufu* in West and Central Africa.

Table 28. Domestic Supply, 2006-12 (MT)

Type	2006	2007	2008	2009	2010	2011	2012	Average, 2007-11
Total Imports	4,839	7,328	3,246	14,167	16,141	23,323	46,366	12,841
wheat grain	2,911	3,666	485	11,923	6,563	17,751	39,372	8,078
wheat flour*	1,928	3,662	2,761	2,244	9,578	5,571	6,993	4,763
Commercial Imports	4,839	7,328	3,246	14,007	16,141	23,323	46,366	12,809
wheat grain	2,911	3,666	485	11,923	6,563	17,751	39,372	8,078
wheat flour	1,928	3,662	2,761	2,084	9,578	5,571	6,993	4,731
monetized grain**	N/R	N/R	4,310	13,090	11,650	6,750	3,780	8,950
monetized flour**	0	0	0	0	0	0	0	0
Food Aid Imports	0	0	0	160	0	0	0	32
distributed grain	0	0	0	0	0	0	0	0
distributed flour	0	0	0	160	0	0	0	32
Exports	29	38	0	134	0	0	0	35
Net Trade	4,810	7,290	3,246	13,873	16,140	23,323	46,366	12,774
Production	8,007	7,987	8,094	8,583	9,034	9,787	10,000	8,697
Supply	12,817	15,277	11,340	22,456	25,174	33,110	56,366	21,471

Sources: Imports - Comtrade, Trade Map, FAOStat, GoB Customs; Food Aid - WFP, IGC, AMEX Int'l; Exports - Comtrade, Trade Map, FAOStat; Production - FAOStat, MINAGRIE (2007-11), ISABU (2012).

* Conversion Factor of 0.75 : 1 used to convert flour to wheat grain equivalent throughout this table.

** Monetized amounts already included in commercial import figure.

5.4.2 Supply in Detail

Domestic production. The current volume of production (10,000 MT) is primarily for own consumption or reserved as seeds for the following season. Wheat grain is usually grown in rotation with potatoes and vegetables on small plots without the assistance of mechanization. It is primarily grown in the highlands of the Kayanza and Muramvya regions and is generally considered poor quality. While some of the wheat produced has low levels of protein (from 8-9 percent),¹⁰³ there is wheat considered suitable for bread production with protein levels of approximately 11 percent.¹⁰⁴ One local mill purchases wheat in relatively small volumes (250-400 MT at most) when it is available on the market; other mills do not purchase locally, although they expressed interest in purchasing domestic wheat if it was produced in sufficient volume and was higher quality. Management at one mill suggested that domestic production, under the right conditions, could fulfill about 20 percent of domestic demand for wheat flour products.

Major production constraints include lack of access to improved seeds and fertilizer, and decreasing plot size. Currently, the majority of farmers growing wheat are using seeds retained from their harvest.¹⁰⁵

The price of local wheat fluctuates greatly. At the time of the first harvest, the wheat may sell for BIF 600 but later in the season that price may rise to BIF 1,200.

Imports. The 2007-11 average for wheat imports¹⁰⁶ stood at 14,065 MT, however, this average masks the dramatic increase in recent years. Imports of wheat grain were relatively low until 2009, when they jumped by more than 10,000 MT from the previous year. Since then, imports have continued to rise, nearly doubling from 2011-12 to reach over 46,000 MT (see table below).¹⁰⁷ Given the improved security in the country since 2008, a number of factors seem to account for the yearly increases in imports, such as better and safer transport networks, a more hospitable environment for business operations, and growing demand from the urban population.

Table 29. Total Imports of Wheat and Wheat Flour (MT), 2006-12

Type	2006	2007	2008	2009	2010	2011	2012	Average, 2007-11*
Total Imports	4,839	7,328	3,246	14,167	16,141	23,323	46,366	12,841
Wheat grain	2,911	3,666	485	11,923	6,563	17,751	39,372	8,078
Wheat flour (wheat grain equiv)	1,928	3,662	2,761	2,244	9,578	5,571	6,993	4,763

Sources: Comtrade, Trade Map, FAO, GoB Customs.

*Because of the large amount of investment occurring in the milling sector in Burundi, the average for 2007-11 is presented to more clearly reflect domestic demand rather than demand in the export market.

103 USAID-COMPETE, 2010, Staple Foods Value Chain Analysis - Burundi.

104 Although, as noted above, it must be mixed with imported wheat in order to produce bread suitable for general market preferences; source for above: Personal communication with key stakeholder in wheat sector, August 2013.

105 One mill manager said bluntly, "the bad [seeds] they're harvesting every year are the same ones they're planting the next."

106 Composed of wheat grain and wheat flour.

107 This trend generally corroborates statements from key market players who felt that the domestic market demand stands at approximately 40,000 MT per year.

According to Comtrade, primary source countries include the US, Canada, Brazil, Argentina, and France. Until recently, the majority of the wheat on the market appeared to be monetized US and Canadian wheat, primarily from Title II and Japan International Cooperation Agency (JICA) monetizations. The following table reflects primary source countries for wheat imports for Burundi per Comtrade.¹⁰⁸

Table 30. Primary Source Countries for Imported Wheat (MT), 2007-12, per Comtrade

	2007	2008	2009	2010	2011	2012	Average, 2007-11*
USA	0	0	0	6,470	9,383	3,400	3,171
Canada	2,746	0	5,401	121	0	7,746	1,654
Brazil	0	0	0	0	6,030		1,206
United Kingdom	0	0	1,469	0	0		294
Germany	0	0	0	0	872	30	174
Ukraine	0	0	0	0	820	2,461	164
Uruguay	0	0	0	0	699		140
United Rep. of Tanzania	30	0**	0	534	29	8	119
Georgia	0	0	0	0	577		115
Others	0	0	120	0	434	303	111
Uganda	552	0	1	0	0		111
Argentina	0	0	0	0	0	8,005	
France						5,655	
Total	3,328	0**	6,991	7,125	18,844	27,608	7,258

Source: 2007-11 - Comtrade; 2012 - Comtrade monthly figures.

*Because of the large amount of investment occurring in the milling sector in Burundi, the average for 2007-11 is presented to more clearly reflect domestic demand rather than demand in the export market.

**Data from GoB Customs reflect 1,938 MT of imports from Tanzania in 2008. Because the three other primary data sources (Comtrade, TradeMap and FAOstat) do not reflect any imports or exports, the majority of these are assumed to represent transshipments, and thus sourced from other countries. The averaged imports using all sources results in the 485 MT import figure for 2008 listed above.

Exports. It does not appear that domestically produced wheat grain is exported. If any volume does exit the country it is minimal and via informal channels. Additionally, there are currently no formal exports of industrially milled wheat flour.¹⁰⁹

While exports of wheat or milled wheat products are not reported in official statistics, all major milling companies have stated that they are targeting the market in the Democratic Republic of the Congo (DRC). Management at Bahkresa went so far as to say that they expected to sell 65-70 percent of their production on the export market, primarily in the DRC and in western Tanzania. However, the mills do not export their products themselves. Instead, they sell their goods at their factories and warehouses to wholesalers who then deliver their

products to their own customers or storage facilities. This customer base includes wholesalers who sell their goods on the export market including (or especially) those based in the DRC. Sales for the DRC market appear especially valuable to Burundian market actors because people in that market are already performing their transactions in hard currency; when wholesalers and traders come to purchase wheat flour at the millers' factories, they pay in US dollars, and any sales done in US dollars obviate the need for the millers to exchange that money into US dollars.

Food aid. Catholic Relief Services (CRS), the current Title II awardee, has monetized wheat grain since 2009 for their current programming cycle. Neither Title II wheat grain nor wheat flour is distributed as food assistance in Burundi, and USDA has not sent wheat to Burundi as food aid during the current Title II cycle.

Tonnages for individual Title II monetizations have averaged approximately 7,320 MT per year. Total monetized volumes have at times exceeded 13,000 MT. (See table on next page.)



Photo by Fintrac Inc.
Here, a local baker in the Muyinga area sells his products. Muyinga, Burundi, August 2013.

¹⁰⁸ The figures in this table are slightly different from the figures listed in Table 29 above, given that these only reflect values from one source of data and the table above takes into account multiple sources of data.

¹⁰⁹ Although mirror data from Rwanda shows one MT of flour imported from Burundi for 2012 (Trade Map, accessed September 2013).

Table 31. Sales Price and Value (US\$) of Title II Hard Red Winter Wheat Monetizations (MT), FY08-13

Fiscal Year	Program	Tonnage	Contract Signed	Sales Price	Sales Value
2008	MYAP	4,310	9/9/2008	425	1,831,750
2008 Total		4,310			1,831,750
2009	MYAP	7,200	6/2/2009	270	1,944,000
2009	PM2A	5,890	8/27/2009	270	1,590,300
2009 Total		13,090			3,534,300
2010	MYAP	8,000	4/8/2010	265	2,120,000
2010	PM2A	N/A	N/A	N/A	N/A
2010 Total		8000			2,120,000
2011	MYAP	6,750	3/17/2011	390	2,632,500
2011	PM2A	3,650	12/16/2010	350	1,277,500
2011 Total		10,400			3,910,000
2012	PM2A	3,780	12/12/2011	337	1,273,860
2012 Total		3,780			1,273,860
2013	PM2A	4,330	12/24/2012	423	1,831,590
2013 Total		4,330			1,831,590
Grand Total		43,910			14,501,500
Average by Year		7,318			2,416,917
MYAP Average		6,565			2,132,063
PM2A Average		4,413			1,493,313

Source: CRS.

The Government of Japan (GoJ) is also monetizing wheat grain in Burundi via the JICA/Burundi office. The volume of goods purchased is tied to the level of funding available for the recipient country. The GoB National Commission for the Sale of Goods from the Private Sector (CNVDPE, *Commission Nationale Chargée de la Vente des Biens du Domaine Privé de l'Etat*) coordinates the sale, and proceeds go toward projects previously agreed upon by JICA and the Ministry of Agriculture and Livestock (MINAGRIE, *Ministère de l'Agriculture et de l'Élevage*). As the table below shows, the GoJ monetized 7,788 MT of wheat grain in 2011 and 9,337 MT in 2013.¹¹⁰

The monetizations in 2011 and 2013 were of Canadian wheat and were sold on the commercial market via auction. Farisana and MINOLACS both purchased the 2011 sale. The 2013 sale is not yet completed as of September 2013, though reportedly Farisana will be the sole purchaser. Key informants at JICA and MINAGRIE were not able to provide details concerning sales price, date of sale, and specific variety, and USAID-BEST was not able to meet with officials at CNVDPE during field work to discuss sales methodology. JICA does not conduct market studies to determine appropriate sales volumes or potential sales impacts.¹¹¹

Table 32. JICA Monetizations of Wheat Grain

Year*	Country of Origin	Value (Yen)*	Approximate Value Range in US\$**	Quantity (MT)	Buyers
2011	Canada	400,000,000	US\$4.2-4.9 million	7,788	Farisana and MINOLACS
2013	Canada	550,000,000	US\$5.4-7.2 million	9,337	Farisana

Source: MINAGRIE.

* Monetization sales in 2011 and 2013 were funded by donations allocated in the previous GoJ fiscal years.

** Exact dates of purchase not known. Range of approximate value in US\$ given to note exchange rate fluctuations over the 2010-2011 and 2012-2013 periods (OANDA).

5.4.3 Government Policy

Wheat. Burundi joined the East African Community (EAC) in 2008. Although member states have agreed to eliminate or gradually reduce tariffs for trade within this consortium, Burundi has negotiated an exception for a number of food products that it considers “sensitive,” including maize, rice, wheat, wheat flour, and sugar.¹¹² High tariffs on wheat flour were included to encourage consumers to purchase domestically milled wheat flour and thereby protect the domestic wheat milling industry.¹¹³ Duties on imported wheat have been phased out to encourage imports of unprocessed grain. Imported milled wheat flour sourced from EAC countries is normally subject to a customs fee of 35 percent; although it has currently been reduced to 30

110 The Government of Japan previously donated 5,680 MT of US rice in 2010 (GoJ FY09), as well as approximately 1,000 MT of fertilizer from Vietnam and Russia in 2012 (FY11 for Japan). The monetization of the rice received bad press in Burundi and Japan was harshly criticized for trying to compete with local production of Burundian rice. Consequently, JICA switched to wheat the following year based on perceived needs of the population. (Source: Management at JICA and MINAGRIE).

111 Personal communication with JICA management, August 2013.

112 www.droit-afrique.com/images/textes/Burundi/Burundi-Loi-2009-application-TEC.pdf.

113 Personal communication with key stakeholder, August 2013.

percent, this fee will soon return to 35 percent.¹¹⁴ In addition, all wheat flour imports are subject to a 10 percent Value Added Tax.

The GoB has encouraged Bakhresa to build its facility in Burundi with certain incentives such as exempting their duties on imports of machinery; however, one company manager spoke of US\$20,000 in taxes that he owed on importing lab machinery, which he is protesting with Customs.

Fertilizer. In a pilot with the International Fertilizer Development Center, the GoB has created the National Fertilizer Subsidy Program of Burundi (*Programme National sur les Subventions des Engrais au Burundi*) to develop and distribute improved seeds in-country at a subsidized rate to producers. The governments of Germany and the Netherlands co-fund the program. However, local producers' groups note that their members cannot access the subsidized fertilizer for a number of reasons, including long distances to main centers where the fertilizer is available, and a lack of financial resources to make purchases.¹¹⁵

Genetically Modified Organisms (GMOs). The GoB Office of Standards (*Bureau de Normalisation*) governs the importation of processed food into the country, including fortified foods and GMOs, ensuring they are in line with Codex Alimentarius standards.¹¹⁶

The GoB permits the importation of GMOs, but these commodities need to be declared at the time of importation.¹¹⁷ Given that US wheat is not GMO, this policy will not cause any issues within Burundi. Similarly, concerns that GMO products are not permitted in the Port of Mombasa do not pose an issue for US wheat, although that restriction may be a reason why USAID and/or future awardees would elect to import goods through the Port of Dar es Salaam if other commodities in the same shipment are GM products.

114 The Director of Customs at the OBR noted a duty of 30 percent on imports from all countries, including those in the EAC, but another contact within Customs stated that imports of wheat flour were exonerated. Regardless, it was noted that in 2012 duties were temporarily lowered on wheat flour and other sensitive products to encourage importation and address food insecurity. These duties should have increased again following December 2012, but it is not clear if this change has occurred. Additionally, it was noted that the Value Added Tax (VAT) of 18 percent on wheat flour was temporarily lowered to 10 percent in 2012 as well; this tax has not yet increased either but key informants stated that millers are charging 18 percent VAT on their sales, possibly because they fear a retroactive increase on the VAT going back to December of that year. In a follow up conversation with the Director of Customs, he reported that this tax has been permanently lowered to 10 percent.

115 Personal communication with key stakeholders, August 2013.

116 An international code of standards on a variety of issues related to consumer food safety. Published by the Codex Alimentarius Commission. <http://www.codexalimentarius.org/>

117 Personal communication with key stakeholder, Burundian Bureau of Standards and Quality Control, August 2013.

5.4.4 Starch Substitution

Local wheat. Consumers hold different perspectives of those products from local wheat and those from imported (and milled) wheat grain. People who demand *ugali* or *ubuyi* are not typically bread consumers, and the contrary appears to hold true as well: the wealthier middle and high class consumers who eat bread as a breakfast item do not consume *ugali* and *ubuyi* as staples. Additionally, where consumers with lower purchasing power do demand bread from locally grown wheat, it is generally in more remote areas in wheat growing parts of the country, and those consumers demand a heartier, whole wheat bread that will stay fresh for several days.

There does appear to be some substitution between locally grown wheat and maize. In limited areas such as the southern part of the Mugamba natural region,¹¹⁸ Mugamba local wheat and maize can be taken as substitutable products depending on stocks for each cereals - maize harvested in April can be consumed until the next planting period for maize (September-October). Hence, from July-August (the harvesting period for wheat) until September-October, there may be a substitution between these two cereals. Outside of this very limited period, there is no substitution.¹¹⁹



Photo by Fintrac Inc.

Local industrial millers have invested heavily in milling equipment, like that seen here, to meet local and regional demand for wheat flour and other by-products. Bujumbura, Burundi, August, 2013.

Wheat flour. Some anecdotal evidence indicates that consumption of bread products may compete with consumption of maize and cassava. A key stakeholder reported that at the time of the maize harvest the demand for wheat products fell, and a mill manager also reported that in the past demand for

118 A map of the natural regions can be found in Annex 3.6. .

119 Personal communication with key market informant, September 2013.

wheat flour was seasonal as it rose during the dry season; however, given the decline in the price for wheat flour relative to cassava flour this seasonality has ceased. Additionally, given the limited reach of bread and wheat flour products into rural areas, it does not appear that substitution poses a problem. If the price of bread declines to a price that is affordable for lower income households who then select it over locally produced commodities, awardes should reconsider their food aid calculations so as to ensure that wheat flour products are not undercutting local market prices for other commodities.

5.4.5 Key Market Actors

Over the past 10 years, only two industrial milling companies have operated in Burundi: MINOLACS and Farisana. However, even with a 35 percent import tariff, these two mills were not able to keep pace with demand. Consequently, the Kenyan milling conglomerate PEMBE entered the market in 2009 and the large Tanzanian corporation Bakhresa recently began operations in August 2013. Although MINOLACS runs its mill in the highland wheat-growing region of Muramvya, the other three are located in Bujumbura. All industrial mills are currently importing wheat for their operations in Burundi. (Small-scale hammer mills process local wheat grain; consumers typically pay BIF 100 to mill one kilogram.)

The mills generally sell to wholesalers or bakers. Wholesalers then typically sell to retailers, but a deteriorating economy and poor purchasing power means that some wholesale vendors are now engaging directly with consumers.

The following sections discuss in detail the specific operations of these four large-scale mills.

MINOLACS. The original mill was constructed in 1978 and was under the direction of the government until it privatized in 1992. Interpetrol, a large domestic petroleum company, acquired it from the original buyers in 1999, rehabilitated the machinery, and opened the company for operations in 2000 under the name MINOLACS¹²⁰ with daily milling capacity of 40 MT for wheat and 30 MT for maize.¹²¹ As of the USAID-BEST field visit in August 2013, the capacity remains at 40 MT for wheat per day, but MINOLACS is building a second, larger mill that should add 150 MT of additional milling capacity to their operations when completed in November 2013. The mill is investing in storage capacity at its facility in Muramvya by constructing four new silos (with the capacity to expand if necessary) of 2,500 MT each. Additionally, the company owns a fleet of over 70 trucks for use across its various operations. Although the mill only has three vehicles for its operations, this number will soon increase when the second mill starts running.

Mill management considers the location in Muramvya a strategic

¹²⁰ Note that these dates, provided by company management during the August 2013 field visit, differ slightly from the dates provided during field work for the January 2012 USAID-BEST report. In that report, management stated the Interpetrol purchased the mill in 1996.

¹²¹ Their maize mill is currently sitting idle. Management did not elaborate as to the reasons.

asset because it better allows them to reach cities and towns throughout the country; and ease of access will be increasingly important as the urban and semi-urban populations outside of Bujumbura consume more bread products.

MINOLACS is currently the only mill that purchases some quantity of locally grown wheat (under 250-400 MT when available). The company indicates that it would purchase more local production if the quality was more consistent and greater volumes were available.

The company produces two varieties of flour - bakery flour and home baking, from blending ratios are generally 80 percent hard to 20 percent soft wheat for the bakery flour, and 60 percent soft to 40 percent hard for the home baking flour (though actual ratios differ depending on the varieties of wheat used in milling). About 40 percent of production goes to bakery flour and the rest to home baking. It is unclear if the company will continue at these ratios with increased production from the new mill.

Management cited two major market constraints: 1) a limited supply of electricity means that the current mill can only run at 85 percent of capacity (34 MT per day instead of 40 MT) and even the new mill would run at approximately 161.5 MT per day instead of 190 MT; and 2) the addition of Bakhresa's new mill adds a significant amount of competition to the market. Additionally, management states that Bakhresa was purposely dumping its product in the market to gain market share.

Another issue, less highlighted by company management, relates to congestion at the Port of Dar es Salaam. MINOLACS can only turn over¹²² its trucks once or twice per day because its operations at the port are located just outside and unloading ocean vessels often takes a long time. Thus, the company incurs heavy transport costs in terms of demurrage fees at the port. Management stated that Bakhresa, which owns its own silos within the port area, is able to turn over a truck 10 times in a single day because it can unload vessels much faster than if they needed to drive through the congested city traffic in Dar es Salaam. Thus, Bakhresa avoids the expensive demurrage fees at the port. MINOLACS is considering investing in silos within the port so as to remain competitive on this front.

Farisana. The mill is located in Bujumbura close to the international airport. The company opened for operations in 2004 with 45 MT of milling capacity, but opened a new mill of 150 MT capacity per day in July 2013. The company is currently only milling in its new mill (at a full 150 MT per day), and is planning to rehabilitate the machinery in its old factory to ready it for production of more specific, and presumably targeted, brands for the market.

Farisana produces two varieties of flour, which both use the same blending ratios of hard to soft wheat, the only difference being the amount of bran which is used in the end product.

¹²² The number of trips a truck can make from ship to destination in a given period.

Approximately 80 percent of its production is used for flour destined for bakeries and 20 percent of its products for the smaller pastry market.

Like MINOLACS, warehousing to store goods unloaded from ocean vessels is an issue for Farisana, and they also encounter delays at the port and incur demurrage fees as a result. Unlike MINOLACS, the company does not have its own fleet of vehicles and relies on hired trucks in Tanzania to transport its imported wheat inland from the port, though management stated there is sufficient supply of trucks on the market for it to do so. Farisana prefers to ship goods through Tanzania by rail to Kigoma, as doing so allows all cargo to be sent in a single shipment; management noted that this option is not currently available given the current poor state of the rail network in Tanzania. If the situation improves however, then Farisana would select this mode of transportation.

Although Farisana does not procure locally on the open market, the company is in the beginning stages of a seed multiplication program to produce wheat locally using improved varieties of seeds from farmers working on contract for them. So far the company has purchased 1,000 MT of improved seeds and has distributed them freely to approximately 700 farmers in the Kayanza region in the most recent agricultural season. B.¹²³ Farisana then buys their production at harvest, paying for the use of their land, labor and inputs, but not the price of seeds. The company transports the goods to their mill in Bujumbura to blend with imported wheat for processing; it then sells this flour for the beignet market.¹²⁴ The program is only in its infancy and company management did not elaborate on how much they expect to grow the program, but it is clear that they expect to enlarge the program assuming good results from current production.¹²⁵

Pembe. Pembe, a large regional player based out of Kenya, began construction of its facility in Burundi in 2009 with plans to increase its wheat milling capacity and expand into animal feed production. However, soon after commencing operations in 2011 in Bujumbura, the company ran into difficulties obtaining foreign exchange, and this obstacle led to problems paying its bills and its suppliers.¹²⁶ Consequently, Pembe shuttered its milling facilities and began to import flour directly from Tanzania

because doing so proved easier than purchasing wheat grain for its own operations.¹²⁷ The company has resumed milling grain, but was only operating at a fraction of its 180 MT installed capacity at the time of field work in August 2013. At present, Pembe is only milling about 30 MT per day, though this capacity fluctuates somewhat. The volume produced remains relatively small and depends on their ability to access foreign exchange inputs. They currently produce two varieties of flour at its facility, both with approximately 50 percent hard and 50 percent soft.¹²⁸ The quality of their goods seems to be well regarded on the market.

Bakhresa (aka Azam). Bakhresa is the newest addition to the industrial milling sector in Burundi. The company is a large conglomerate based out of Tanzania and opened its mill in Burundi with the intention of targeting the large export market to the DRC and western Tanzania. The company reports an installed capacity of 360 MT per day,¹²⁹ and management said they have been running at full capacity since commencing operations earlier in August 2013. The company relies on its sister company in Tanzania for shipment of wheat grain from port to mill, and as of yet had not experienced any difficulty accessing foreign exchange.

The company expects to sell approximately 60-70 percent of its production on the export market, primarily in the DRC and Tanzania. Management did not specify the size of the market in either of those countries; but stated clearly that they felt the market in the DRC was larger than the market in Burundi. Of note, the company has already made a sizeable sale to a wholesaler based in the DRC and will continue to make similar sales to DRC-based sellers.

Currently, the mill produces a single variety of flour composed of 70 percent soft and 30 percent hard wheat, although it will expand to a total of six types eventually, all with different target markets (e.g., home versus commercial baking, etc.).

The entrance of Bakhresa appears to have had a significant impact on the market.¹³⁰ The addition of its new mill, along with Farisana's and MINOLACS's upgraded mills, adds as much as 675 MT of milling capacity per day (approximately 175,000 MT per year), all of which is expected to reach the domestic market in the second half of 2013. The combined total of this new capacity will increase available domestic milling capacity for wheat flour to 135,000 MT per year over the estimated 40,000 MT of demand. How such an increase will affect the local market - whether all players stay, sell on the export market, go out of business, or flood the market with cheap wheat flour as they jockey for market share - is impossible to predict at this time.¹³¹

123 February - May.

124 Personal communication with key informant, September 2013.

125 Assuming a producer needs 70 kg of seeds for one ha (which is equal to 0.0143 ha per kg), 1,000 MT of seeds should cover approximately 14,285 ha. Given that yield in local conditions for this wheat is approximately 1.5 -2 MT/ha, the expected production for this wheat grain should be between 21,428 MT and 28,570 MT, which is more than twice the country's current estimated production.

126 USAID-BEST heard anecdotally that Pembe faces a foreign exchange problem either because the company is not owned and run by Burundians or it is not choosing to play within the rules of the Burundian business environment. Management noted that the *Banque de la Republique de Burundi* requires that Pembe have all merchandise in their warehouse before they will release the funds of foreign exchange necessary for its purchase. Additionally, management reported having to either pay for goods up front or pay at least in part prior to shipment, which causes their suppliers to hesitate before shipping goods.

127 Company management did not elaborate further on this decision.

128 Distinguished by their use of the bran in the flour. One uses more bran than the other.

129 Machinery supplied by manufacturers based primarily in Turkey and China, according to management.

130 One key informant, a manager at a competing mill in-country, stated that he expected big changes in the market in the coming years because of it.

131 Management at one of the competing mills complained that Bakhresa was

Awardees should continue to monitor the development of the market and the actions of these four key players as any changes could affect future monetization sales.

Current installed milling and operating capacity for the major mills are listed in the table below.

Table 33. Installed vs. Operational Capacity at Major Mills (MT/day)

Mill	Daily Installed Capacity	Approximate Current Operating Capacity
MINOLACS	40 (200 after completion of its new mill in Nov 2013)	34 (161.5 in Nov 2013)
Farisana	195 (150 + 45)	150 (the older, smaller mill not currently running)
PEMBE	180	Varies: currently 20-30
Bakhresa (aka Azam)	360	360
Total	775 (935 after MINOLACS's expansion)	569 (696.5 after MINOLACS's expansion)

Source: Mill management.

Opinions varied among key informants as to which wheat flour was best for the production of bread: some preferred flour from Bakhresa¹³² and Pembe while others preferred MINOLACS.¹³³ It appears that flour from Farisana and Pembe is preferred for beignets.¹³⁴

The market in the DRC is a valuable one for all wheat millers in the Burundian market because mills receive US dollars from such a trade, which is incredibly valuable given the lack of foreign exchange in-country and the amount needed for their other international operations.

5.4.6 Past Performance of Title II Monetizations

Title II programming depends on the monetization of Hard Red Winter (HRW) wheat for funding. Already, the program has monetized on average 7,318 MT of wheat per year, although CRS monetized upwards of 13,000 MT in 2009 to cover both the Multi-Year Assistance Program (MYAP) and Preventing Malnutrition in Children Under 2 Approach (PM2A).

Millers have historically purchased HRW wheat at the Port of Dar es Salaam, Cost and Freight (CFR), full liner berth terms (seller is responsible for stevedoring). Thus, the cost of the wheat itself is included, as well as estimated shipping and handling at the port. All other port fees and customs duties are assumed to be paid for by the buyer and are not included in

already involved in dumping to gain market share.

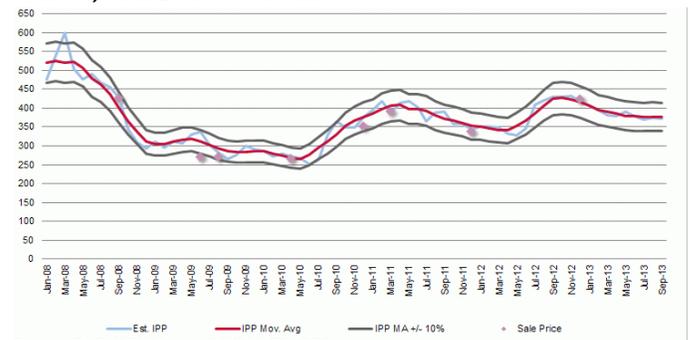
132 Bakhresa is known locally in Burundi under the name "Azam," presumably a shortened form of the conglomerate's full name, "Azam Bakhresa Group."

133 Some key informants also stated that MINOLACS products were inconsistent, and that supply of their products was inconsistent. Farisana was also felt to have a lower quality product for baking bread products.

134 Personal communications from S Rwamasirabo and A Mpoziririga, October 2013.

import parity price (IPP). Using this variety to calculate IPP, previous monetizations have fared well, achieving 96 percent of IPP over the period.

Figure 18. Estimated IPP vs. Sales Price Achieved: US HRW Wheat, CFR Dar es Salaam



Source: FAO, USWheat, MINOLACS, CRS.

Individual monetizations have funded the now-completed MYAP as well as the on-going PM2A program (will end in October 2014). Annex 5 provides a detailed breakdown of IPP versus sales price.

5.4.7 Recommendations for Title II

Wheat grain is a suitable choice for monetization. Wheat flour should not be monetized as it would compete with local mills.

Consumers view products from local wheat and those from imported, milled wheat grain differently, and where there are consumers in rural, remote areas who demand bread from wheat flour, they demand a heartier product than bakeries can make from finely milled wheat flour. Further, the mills are not replacing purchases of locally grown wheat with imported wheat grain. MINOLACS only buys small quantities of locally grown wheat for its production because the quality is insufficient for milling. Other mills have indicated they would purchase domestically grown wheat if quality improved and volumes increased but that they are not currently sufficient for them to do so.¹³⁵ Finally, market actors unanimously agreed that monetization of wheat grain would not impact local production or trade of wheat grain.

Additionally, access to foreign exchange is a problem for local mills, e.g., the Pembe mill is operating at a fraction of its full installed capacity due in large part to this problem. Monetization in local currency helps provide the necessary wheat grain for production while circumventing the need to pay for the good in foreign exchange.

Constraints to monetization. Since industrial mills are currently targeting the export market, awardees should base tonnages for monetization off historical import levels and not recent import levels that may be inflated to reflect this push.

135 Farisana is investing in improved seeds to grow larger volumes of wheat, even as they are purchasing monetized Japanese wheat presumably sold under market value. This action indicates that there is a financial benefit to purchasing locally grown wheat.

Management at MINOLACS and Farisana both mentioned that the current payment terms for monetization sales are problematic for their operations, and might even put future sales at risk. Current procedures require these mills to put up a large amount of funding in advance of the goods arriving at their facilities for processing. Buyers are required to pay 10 percent at the time of signing the contract documents and 90 percent on delivery of the shipping documents (which was often over a month before the goods actually arrived at their mills for processing). Both mills expressed reservations regarding participating in monetization sales that included such terms. Management for both mills greatly preferred the former payment terms of 10 percent paid when the contracts were signed, 30 percent paid at time of receipt of the shipping documents, another 30 percent upon delivery of the goods at port, and the final 30 percent at delivery of goods to the final warehouse.¹³⁶ When they participate in a sale, and when the monetized grain does not arrive within the expected window of delivery, the mills need to scramble to find supply for their milling needs; having such a large amount of funding tied up due to the monetization purchases hinders their ability to make a last minute purchase if necessary.

Future monetization sales should consider the difficulty that the private sector has accessing foreign exchange as well as the advantages that purchasing in local currency could give to selected buyers over buyers who are not selected to participate in sales.¹³⁷ Sales done to only a selection of interested buyers could potentially put the non-selected buyers at a disadvantage, since they would be forced to try to (and potentially not be able to) secure foreign exchange whereas participating buyers would not need to.

Lastly, the required statement from interested buyers that the sale of their goods will only go to the domestic market has not been popular, likely given how lucrative the informal export market has become. Management at Farisana was clear that they would not participate in monetization sales if they needed to make such a declaration, as is a standard condition in monetization sales contracts. Similarly this confirmation would be difficult to receive from Bakhresa when the company is explicitly targeting the export market.

Recommendations. Given the difficulties of securing foreign exchange, monetization sales in local currency should be offered to and split among all interested buyers. Following an initial auction format where all interested buyers are invited to submit a bid, a second round should be held where interested buyers are offered to purchase the goods at the highest bidding price received in the first round. Maximum tonnages would be set by total recommended tonnage divided by the number of interested buyers. If not all interested buyers wish to purchase the maximum sales volume, then their requested volume would be subtracted from the total recommended tonnage, and the rest would be divided accordingly until total volumes are

¹³⁶ Referred to as the “10/30/30/30 payment terms” later in this text.

¹³⁷ Management at Pembe were not aware of previous monetization sales and felt that this foreign exchange problem poses an issue.

exhausted. Sales conducted in this manner would minimize the advantage that buyers would have in the market by sharing the benefit of sales conducted in local currency across competitors.

Provided that all interested mills are included in the monetization sale, up to 15 percent of the import market would be acceptable and should not have a significant negative impact on the market and without changing trade flows.¹³⁸ Since all market players are included in this sale, this volume would not put any of the players at a disadvantage.

Given these conditions, USAID-BEST recommends a sale of up 6,000 MT, which is 15 percent of the current import market, to meet domestic (and not export) demand. Sales of 6,000 MT at the current IPP price of US\$373¹³⁹ would generate US\$2,238,000.¹⁴⁰

Additionally, the HRW wheat should contain 12.5 percent protein, as it has in the past. Future awardees should consider reverting to the 10/30/30/30 payment format to increase competition and enable all the mills to meet the cash requirements. USAID and future awardees should strive to make the window of delivery as tight as possible so that the buyers can rely on their deliveries of monetized wheat as they would a purchase done on the regular open market.

5.5. THIRD COUNTRY MONETIZATION

A third country monetization (TCM) occurs when commodities are sold in one country and the funds generated are used to support the implementation of a Title II program in a different country, usually within the same region.



Photo by Fintrac Inc.

In this photo, bakery workers busily prepare their goods for the local market. Ngozi, Burundi, August 2013.

¹³⁸ This percentage is in excess of the standard 10 percent of the import market usually recommended by USAID-BEST.

¹³⁹ Market players gave a range of current sales price for wheat at the port (from US\$300 - US\$400); current IPP is selected for estimated proceeds for sale. Details of IPP calculation are included in Annex 5.

¹⁴⁰ A sale of 10 percent of the import market at this price would generate US\$1,464,000.

THIRD COUNTRY MONETIZATION

TCM can offer a legally compliant alternative for awardees operating in a country where 1) domestic commodity markets are not entirely competitive; 2) commercial markets are relatively limited in size, therefore limiting the scope for monetization; or 3) host government policies constrain the ability of USAID implementing partners to meet sufficient funding needs through in-country monetization.

TCM provides awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near IPP, which is the best measure of a fair market price. With competition, there is increased assurance that the monetization will not distort the market and will generate higher revenues than if the monetization is conducted in a domestic market with limited or no competition. TCM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. TCM also provides the awardees with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions.

The appropriate third country or regional market is one in which the price for a commodity is reflective of the international price. As the final destination of the commodities sold is indeterminate, the relevant reference to ensure that the Bellmon market conditions are satisfied is to ensure that the final negotiated price is comparable to the import price for that market. In addition, the port facilities of the selected market platform need to be sufficient to physically accommodate the commodities.

Monetization in a relatively large port city is preferred because the buyer would assume inland freight and other costs. The preferred currency in which the transactions would be conducted would be specified in the offer.

If TCM is selected as an option, USAID-BEST recommends a widely advertised competitive procurement using newspapers, internet, and radio. Advertisement should explicitly state commodity specifications, delivery time range, transaction locations, payment terms, and required currency. An auction process using a commodity exchange should be considered. Finally, both the Mission Director of the TCM country and the Title II development country must endorse the monetization.

Potential countries and commodities for consideration.

A lack of options for monetization in Burundi could be problematic should in-country sales no longer be possible due to reasons such as changes in market conditions. Thus, TCM could prove a welcome option to fund future Title II programming, either alone or as a complement to in-country sales.

A preliminary review of trade data suggests that there are a number of commodities for which there is substantial market demand in the region (see table below). As noted in the data, edible oil, wheat, rice, and maize grain are widely consumed throughout the region. Further market study would be necessary to determine the viability of sales in these markets, but upon initial review, they appear promising.

Of note, the 2013 USAID-BEST Malawi Analysis reported that up to 8,450 MT of Crude Degummed Soybean Oil (CDSO) and 40,000 MT of wheat grain is possible, but since awardees are only likely to monetize wheat grain, then there still remains the option of monetizing CDSO. Subsequently, at a current IPP of US\$772.50,¹⁴¹ a monetization sale priced at the cost of palm oil in Malawi could generate over US\$6.5 million. Also as noted in that same report, oil processors in Zimbabwe would likely welcome raw material from the international market for their industries.

Moreover, Burundi has a successful history of TCM for funding programming. As reported in the 2012 USAID-BEST Burundi Analysis, USAID approved a TCM of approximately 5,890 MT of HRW wheat to Louis Dreyfus Commodities Kenya Limited in 2009. All concerned parties reported satisfaction with this transaction.

Table 34. Value of Imports, (US\$) of Select Commodities into Kenya (Average 2007-10), Mozambique (Average 2008-12), Tanzania (Average 2008-12), and Zimbabwe (Average 2008-12)

	Kenya	Mozambique	Tanzania	Zimbabwe
Years	2007-10	2008-12	2008-12	2007-11
Edible Oils	409,844,427	87,286,610	221,455,374	99,268,828
Wheat Grain	186,105,111	103,035,058	266,349,381	77,494,789
Rice	88,260,419	114,135,263	11,038,896	38,306,417
Maize Grain	129,072,142	17,677,191	6,533,583	105,808,643
Wheat Derivatives	16,293,255	1,725,732	14,820,718	45,794,151
Lentils and Pulses	30,859,937	1,242,745	1,164,867	18,599,415
Maize Derivatives	13,142,285	2,904,985	3,241,890	28,454,531
Dairy	5,765,955	18,468,097	854,640	10,190,082
Oilseeds	16,333,959	2,647,491	15,951,693	3,862,787
Oilcake	15,750,871	5,563,438	1,141,982	12,531,055
Sorghum	7,111,719	141,701	266,080	10,876,302

Source: Comtrade, accessed September 2013. Commodity codes used: Rice: 100610, 100620, 100630, 100640; Edible Oils: 150710, 150790, 150810, 150890, 151110, 151190, 151211, 151219, 151221, 151229, 151311, 151319, 151321, 151329, 151411, 151491, 151499, 151511, 151519, 151521, 151529, 151550, 151590; Wheat Grain: 100110, 100190; Oilseeds: 120100, 120210, 120220, 120510, 120600, 120710, 120720, 120740, 120750, 120791, 120799; Wheat Derivatives: 110100; Maize Grain: 100590; Maize Derivatives: 110220, 110313, 230210; Dairy: 040210, 040221; Lentils and Pulses: 071310, 071320, 071331, 071332, 071333, 071339, 071340, 071350; Oilcake: 120810, 230400, 230610, 230630, 230649, 230660, 230690; Sorghum: 100700.

¹⁴¹ Palm Oil price: Index Mundi (<http://www.indexmundi.com/commodities/?commodity=palm-oil>). FOB, Malaysia Palm Oil futures, first forward contract, accessed September 2013. Shipping per IGC Ocean Freight Rates (Australia-Sudan rate as proxy), accessed September 4, 2013.



CHAPTER 6 ADEQUACY OF PORTS, TRANSPORT, AND STORAGE

The majority of WFP's storage in Ngozi is in the form of temporary, mobile Wiikhalls, such as this one. Ngozi, Burundi, August 2013.

Photo by Fintrac Inc.

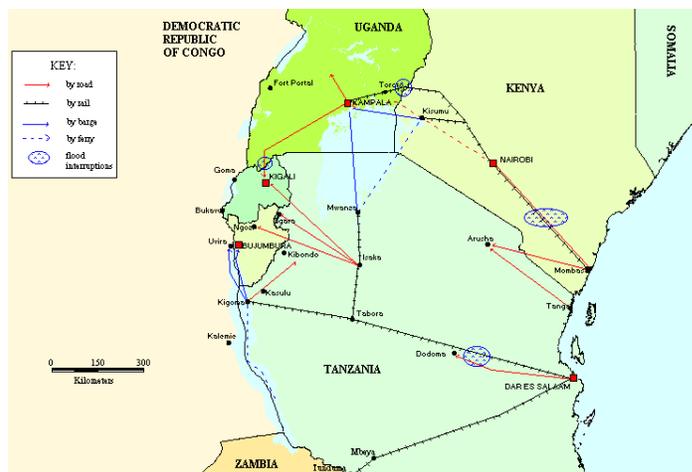
6.1. INTRODUCTION

As a landlocked country, Burundi primarily receives imported goods from the Port of Dar es Salaam in Tanzania, although certain commodities do enter via the Port of Mombasa in Kenya. This chapter presents details on those two major ports and highlights a few others that could be considered in the next Title II cycle. The discussion of logistics then moves to examine the transport routes involved in moving food aid into Burundi and around the country to potential program sites. Lastly, the analysis covers the storage options available for any food aid that may enter Burundi and assesses the adequateness of these facilities for a Title II program.

6.2. PORTS

The Port of Dar es Salaam in Tanzania is the primary port for shipping food aid to Burundi.¹⁴²

Figure 19. Regional Transport Routes



Source: WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013.

¹⁴² Although only 3.3 percent of the goods that pass through the Port of Dar es Salaam are destined for Burundi. WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

6.2.1 Port of Dar es Salaam, Tanzania

Capacity. Traffic at the port has increased substantially over the past decade. The port currently handles the large majority of Tanzania's international trade.¹⁴³ Approximately 1,000 vessels called at the port in 2012 and brought in about 343,500 Twenty-foot Equivalent Units (TEUs) of container traffic. Of this volume, humanitarian organizations imported about 433,800 MT of bulk goods - equivalent to about 29,000 TEUs of containers per year.¹⁴⁴

According to 2011 data from the ports authority, the port has an annual capacity of 3.1 million MT (MMT) for dry general cargo, 1.0 MMT for containerized goods, and 6.0 MMT for bulk liquid cargo. The website does not appear to be updated with 2012 and 2013 capacity improvements, but according to a 2013 media report, the port handled approximately 12.1 MMT in 2012 and expects to handle 13 MMT in 2013.¹⁴⁵

The port has approximately 2 kilometers (km) of quay length with 11 deep-water berths.¹⁴⁶ The port has a draft of 10.5 meters (m) at harbor entrance, although some quays have permissible vessel drafts up to 8.7 m. Four of the 11 berths are dedicated to containers.

Specifications. The general cargo berths at the port have portal cranes, mobile harbor cranes, front loaders, reach stackers, forklifts, and tractor trailers to support operations; the container terminal has ship to shore gantries, rubber tire gantries, mobile cranes, and front loaders to support its operations.¹⁴⁷

Some operators in USAID-BEST field interviews from 2011 considered the Port of Dar es Salaam less efficient than other ports in the region, such as Mombasa, but this attitude appears to be changing. The most recent World Bank Logistics Performance Index ranks the Port of Dar es Salaam at number 88 while Kenya lags behind at 122 worldwide.¹⁴⁸

That said, excessive delays continue to plague the Port of Dar es

143 Tanzania Ports Authority, 2012, Container Terminal. http://www.tanzaniaports.com/index.php?option=com_content&view=article&id=101&Itemid=271, accessed July 2013. Shippers Council of Eastern Africa, 2013, East Africa Logistics Performance Survey 2012. http://www.kenyashippers.org/index.php?option=com_joomdoc&task=doc_download&gid=179&Itemid=129, accessed July 2013.

144 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

145 Sara Jerving, 2013, Tanzania to Upgrade Dar es Salaam Port to Compete With Mombasa. <http://www.bloomberg.com/news/2013-06-25/tanzania-to-upgrade-dar-es-salaam-port-to-compete-with-mombasa.html>, accessed July 2013.

146 Tanzania Ports Authority, 2012, Dar es Salaam Port. http://www.tanzaniaports.com/index.php?option=com_content&view=article&id=100&Itemid=270, accessed July 2013.

147 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

148 Sadly, Burundi is last on the list. World Bank, 2012, Connecting to Compete 2012: Trade Logistics in the Global Economy. The Logistics Performance Index and Its Indicators. http://siteresources.worldbank.org/TRADE/Resources/239070-1336654966193/LPI_2012_final.pdf, accessed July 2013.

Salaam. As of June 2012, container vessels needed to wait on average 10 days to secure a space at one of the berths at port (compared to less than a day in Mombasa). Dry bulk cargo vessels needed to wait on average 4.5 days; there was no such delay at the Port of Mombasa.¹⁴⁹ The ship to shore unloading rate for containers at the Tanzania International Container Terminal Services Ltd. (TICTS) is reportedly 18 TEUs per hour, although WFP, citing the shipping lines that use the port, reports the handling rate is closer to 13 TEUs per hour. Since the actual unloading rate appears uncertain, awardees should be prepared for a slow process getting goods out of port once these commodities have arrived, especially if they are containerized.¹⁵⁰ Additionally, the Port of Dar es Salaam charges a 22 percent tariff on containerized goods, and a 5 percent tax on bulk goods; both these rates are higher than the Port of Mombasa.¹⁵¹

The port is implementing improvements such as deepening the draft on seven of their quays, installing a new conveyor belt system and silos,¹⁵² and installing additional berths for vessels. Many of these upgrades - US\$211 million worth - should be completed by June 2014.¹⁵³ Additionally, the Minister of Transport has announced intentions to increase volumes of cargo at the port by over 80 percent over the next two years.¹⁵⁴ Other improvements include the purchase of three new rolling cranes, which was completed in October of 2012,¹⁵⁵ and the installation of an electronic cargo tracking system,¹⁵⁶ which is due to commence operations in September 2013.¹⁵⁷

6.2.2 Port of Mombasa

Location. The Port of Mombasa is a large, modern port in Kenya on the Indian Ocean and serves as a major entrance point for landlocked countries to the west.

149 Shippers Council of Eastern Africa, 2013, East Africa Logistics Performance Survey 2012. http://www.shipperscouncil.org/index.php?option=com_joomdoc&task=doc_download&gid=180&Itemid=9, accessed July 2013.

150 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

151 World Bank, 2013, Tanzania Economic Update - Opening the Gates: How the port of Dar es Salaam can transform Tanzania. <http://www.worldbank.org/en/country/tanzania/publication/opening-the-gates-how-the-port-of-dar-es-salaam-can-transform-tanzania>, accessed July 2013.

152 Details concerning the new silos (such as capacity and loading and unloading rate) are not available as of September 2013.

153 Sara Jerving, 2013, Tanzania to Upgrade Dar es Salaam Port to Compete With Mombasa. <http://www.bloomberg.com/news/2013-06-25/tanzania-to-upgrade-dar-es-salaam-port-to-compete-with-mombasa.html>, accessed July 2013.

154 Sara Jerving, 2013, Tanzania to Upgrade Dar es Salaam Port to Compete With Mombasa. <http://www.bloomberg.com/news/2013-06-25/tanzania-to-upgrade-dar-es-salaam-port-to-compete-with-mombasa.html>, accessed July 2013.

155 2013, Cargo Clearing Quickens As Dar Port Gets 3-Cranes. <http://www.delmas.com/worldwide-agents/agency-pages/tanzania-agency/agency-tanzania.asp>, accessed July 2013.

156 Known as an "Electronic Cargo Tracking Note" (ECTN)

157 Source: TPA, 2013, TPA Public Notice: Implementation of Electronic Cargo Tracking Note. http://www.tanzaniaports.com/index.php?option=com_docman&task=doc_download&gid=320&Itemid=250, accessed July 2013.

Capacity. In 2011, the port handled about 20 MMT of cargo. Over 5 MMT of this volume were imports in transit to neighboring countries, while 14 MMT were domestic imports. The port has the capacity to handle 250,000 TEUs per year, but it currently handles approximately 600,000.¹⁵⁸ The Kenya Port Authority (KPA) is also developing a new container terminal west of the Kipevu oil terminal with a total of three berths of 230, 320, and 350 m. The expected draft of up to 15 m (at the main quay) will be capable of handling vessels up to 60,000 deadweight ton (DWT). Phase one of this project is expected to be completed by 2015 with two berths and an increased capacity of 450,000 TEUs. The entire project will be completed in 2019 with an overall increase of 1.2 million TEUs.¹⁵⁹

Specifications. Mombasa has over 3,000 m of quays along 18 berths, each with a draft from 9.45-15 m. Lighterage wharves are available. A wide variety of cranes and equipment service the port: traveling and electric cranes with a capacity from 5-20 MT, mobile cranes, rail-mounted gantry cranes with a capacity from 40-45 MT, and rubber tired gantry cranes plus mobile yard cranes each with a capacity from 5-35 MT. There are also a variety of mobile and rail-mounted cranes with a capacity of 5-25 MT throughout the port. Roll-on roll-off facilities are available as well.¹⁶⁰ The longest vessel the port has received to date has been 300 m that occupied the new Berth 19 and part of 18. KPA anticipates that current and expected upgrades to port infrastructure will bring in larger vessels to Mombasa and should result in more transshipments and lower freight rates.

The Government of Kenya hopes that these and other changes will further improve the reputation of the Port of Mombasa as a regional hub for transshipments.¹⁶¹ For example, the president issued a directive eliminating the transshipment bond that previously restricted the movement of cargo through the port. Clearance time for cargo has decreased from 7.1 days to 6.1 days, but despite this improvement the Port of Mombasa still has yet to reach the world average of three days. KPA intends to consult with stakeholders on a plan for the Port of Mombasa to hit this target.¹⁶²

The president has also directed the KPA and other players involved in transiting cargo to reduce the time of delivery from the Port of Mombasa to neighboring countries from 16 days to

five. Measures have been taken to remove all road blocks on the Northern Corridor and to stop the weighing of transit cargo.¹⁶³

Of concern for some Title II food aid, Mombasa has a stricter control of GMO food commodities than the Port of Dar es Salaam should Title II program partners be considering Mombasa in their shipments of goods. Additionally, awardees should consider the security situation in Mombasa should they decide that shipping to this port is a viable option, as it has recently been noted as a location of concern on the US State Department webpage.¹⁶⁴

6.2.3 Port of Bujumbura

Location. The Port of Bujumbura lies at the northern end of Lake Tanganyika. Unlike other ports in the region, management of this port is outsourced to a private company - the South African "Global Ports" company.

Capacity. On the southern quay, the port possesses four mobile cranes each capable of transporting 5 MT. Additionally, on the northern quay the port contains two mobile cranes of 20 MT and 25 MT capacity and a fixed crane with a capacity of 50 MT. The mobile cranes can handle a maximum of 300 MT in a day when working in combination with two labor teams. On average, the port handles 250 MT of commodities and 20 containers of goods per day.¹⁶⁵ WFP has used the port previously to receive food but since the railway line from Dar es Salaam to Kigoma became obsolete about five years ago, very little cargo destined for Bujumbura enters through this port.

The port was constructed to handle up to 500,000 MT of goods per year as all cargo coming into Burundi via the lake or roads were required to pass through this point. However, the Burundi Revenue Authority has permitted the clearance of imports via road at Gitega and at the Kobero border post (for WFP). Consequently, the Port of Bujumbura is handling only a fraction of the 230,000 MT of goods cleared in 2011¹⁶⁶ - USAID-BEST estimates that it is currently handling about 100,000 MT of goods per year.

158 More than twice its stated installed capacity. Kenya Ports Authority, 2013, Kenya Ports Authority Handbook 2012-2013. <http://issuu.com/landmarine/docs/kpa2012-13?e=1056874/1898975>, accessed July 2013.

159 2013, Kenya: Second Container Terminal in Mombasa Takes Shape. <http://www.dredgingtoday.com/2013/05/03/kenya-second-container-terminal-in-mombasa-takes-shape/>, accessed July 2013.

160 Kenya Ports Authority, 2013, Kenya Ports Authority Handbook 2012-2013. <http://issuu.com/landmarine/docs/kpa2012-13?e=1056874/1898975>, accessed July 2013.

161 The East African, 2013, More huge vessels to dock at Mombasa port August. <http://www.theeastafrican.co.ke/business/More-huge-vessels-to-dock-at-Mombasa-port-August-/2560/1928400/-/5ksugx/-/index.html>, accessed August 2013.

162 TradeMark Southern Africa, 2013, Kenya Ports Authority to reduce time for clearing imports. <http://www.trademarksa.org/news/kenya-ports-authority-reduce-time-clearing-imports>, accessed August 2013.

163 TradeMark Southern Africa, 2013, Kenya Ports Authority to reduce time for clearing imports. <http://www.trademarksa.org/news/kenya-ports-authority-reduce-time-clearing-imports>, accessed August 2013.

164 The most recent travel warning from the US State Department states, "The U.S. government continues to receive information about potential terrorist threats aimed at U.S., Western, and Kenyan interests in Kenya, including in the Nairobi area and in the coastal city of Mombasa." Source: US Department of State, 2013, Travel Warning: Kenya, September 27, 2013. http://travel.state.gov/travel/cis_pa_tw/tw/tw_6025.html, accessed October 2013.

165 WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013.

166 Global Ports originally placed a bid to run the port authority based on the understanding that all customs clearing would occur at the Port of Bujumbura. However, now that the GoB has permitted customs clearance in Gitega and other locations, Global Ports is not able to generate the expected revenue from performing all customs clearance in-country. Since the company has incurred some losses due to this change, there is the possibility that Global Ports may abandon its contract and this shift in management would affect port operations.

Specifications. The port has four quays total, with a maximum draft of seven to nine meters. As silting poses an issue, maximum tonnage for a docking boat has fallen from 1,500 MT to 1,300 MT in recent years. This port is primarily used to receive goods rather than for export, and usage for imports has fallen dramatically¹⁶⁷ now that goods can be cleared at other locations throughout the country.

According to the Bujumbura Port Statistics Report, the primary source for goods arriving at the port is Mpulungu, Zambia, although the port can receive goods from any port servicing Lake Tanganyika.

The African Development Bank is planning upgrades to the Port of Bujumbura that include dredging and excavation to rehabilitate the petroleum jetty.¹⁶⁸ So far, none of this dredging has taken place and it is unclear when it will be done. Additionally, it is unclear at this time whether or how much the investment being launched on the line of rail for the central and northern lines (through Tanzania and Kenya respectively) will affect commerce passing through the port.

There are three Burundi-based companies that operate barges and motorized vessels between the various ports on the lake; two of the three are fairly large, well-established, and have worked with WFP in the past (see details below):

- Analoc has two motorized vessels of 350 MT and 600 MT; seven barges ranging from 130-1,200 MT with a total barge capacity of 4,115 MT; and three tugs. They also have their own storage facilities located close to the port that is run by an associated company called Gravinport.
- Batralac has three motorized barges (500 MT, 1,150 MT, and 1,500 MT). The largest of these three was built specifically for the Port of Kigoma, but with the reduction in traffic over the past three years the vessels now more frequently ply the Mpulungu-Bujumbura route.
- Tanganyika Transport, the newer of the two, has a single 600 MT barge.

Average sailing time from Kigoma to Bujumbura is between 24-48 hours at an average cost of US\$20 per MT. Analoc confirms that it still ships food for WFP between Kigoma and the Democratic Republic of Congo (DRC).

6.2.4 Port of Kigoma

Location. The Port of Kigoma, on Lake Tanganyika, receives mainly bagged cargo from the Port of Dar es Salaam via road and railway and ships to points in the DRC and Burundi.

Capacity. The port was originally designed as a rail terminal, but the rail line run by the Tanzania Rail Ltd. appears to offer inconsistent service. On average, daily capacity is about 200 MT.

167 Rapport des statistiques mensuelles : Janvier-Juin 2013.

168 African Development Bank, 2013, Mpulungu & Bujumbura Port Project. <http://www.afdb.org/en/projects-and-operations/project-portfolio/project/p-z1-dd0-004/>, accessed July 2013.

According to WFP, the Port of Kigoma handled nearly 100,000 MT of goods in 2008. Food aid primarily arrives at this location via train.

In 2011, WFP shipped approximately 9,000 MT of goods to the Port of Bujumbura via this port but ceased doing so in 2012 because of high costs.¹⁶⁹ WFP still uses the port to ship food to the DRC that has arrived from the Port of Dar es Salaam via road.

Specification. The port has a draft of 10 m, although it can only accommodate vessels with a draft of 4m.¹⁷⁰

Use of machinery to unload and load vessels is minimal, and labor teams are used to handle goods. There is one electric gantry crane of 45 MT capacity, which is out of commission, and a recently purchased grove crane which is not yet operational as of August 2013.¹⁷¹

6.2.5 Other Ports

A small number of other, minor ports provide shipping services to the Port of Bujumbura. While it seems unlikely that they would be needed for shipping sizable volumes of food assistance, they are available for use should other means of shipping become unavailable.

Port of Mpulungu, Zambia. The port currently exports cement, sugar, and steel from Zambia to the Great Lakes region and has a capacity to handle 1,000 MT of cement and 800 MT of sugar per day. In total, the port reportedly handled 123,000 MT in 2012.¹⁷² Typically, 150-200 vessels call at the port in a year.¹⁷³ Although there is no container terminal at the Port of Mpulungu, there is one gantry container crane with a capacity of 45 MT and a smaller mobile crane with a capacity of 18 MT.

Port of Bagamoyo, Tanzania. Tanzania has announced plans to develop the new Port of Bagamoyo, a port with the capacity to handle 20 million containers per year-- a major addition to regional shipping capacity. Development is expected to cost US\$11 billion, and construction is scheduled to begin in 2014 and end in 2017.¹⁷⁴ This port will not be completed in time for the next Title II cycle, but if construction goes according to plan, it could certainly be a viable option in any future cycle.

169 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

170 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

171 The most recent LCA (from December 2012) reported that the vehicle's driver was receiving training on its operation however. WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

172 Zambia: Mpulungu Harbour records 123,000 tonnes in exports, <http://allafrica.com/stories/201303060798.html>, accessed August 2013

173 WFP, December 2009, Zambia Logistics Capacity Assessment.

174 2013, With \$11bn Bagamoyo port, Tanzania prepares to take on EA hub Mombasa. <http://www.theeastafrican.co.ke/news/Tanzania-plan-for-11bn-port-threat-to-Mombasa/-/2558/1849536/-/14pu3bd/-/index.html>, accessed July 2013.

6.2.6 Required Documentation for Food Aid Shipments

According to GoB Customs, private voluntary organizations (PVOs) must obtain an agreement from the GoB permitting them to import goods for distribution. PVOs must submit a letter to the Ministry of Foreign Affairs prior to importation that requests an import duty exemption for their shipments. The letter should cover the following:

- Context of their work
- Period of activities
- Quantity or volume of assistance being shipped
- Request for exoneration from both duties and VAT for the goods they are importing (for commodities for Direct Distribution only).¹⁷⁵

Following approval from the Ministry of Foreign Affairs, the Awardee should submit the following documents to import its food aid into the country:

- Bill of Lading
- Certificate of origin
- Commercial invoice
- Phytosanitary certificate
- Fumigation certificate
- Food and Grain inspection Service certificate
- Letter from Ministry of Foreign Affairs stating that import is food assistance¹⁷⁶

Implementing partners (and importers in general) may ask the Customs Agency to clear their goods at Kobero, Gitega, or the final warehouse. They should note however that if clearing is taking place in Gitega, goods will be kept free of charge for up to five days, after which a charge of US\$250 per truck per day will be levied against the importer (in this case the awardee).¹⁷⁷

Awardees should note that clearing agents in Dar es Salaam require shipping documents at least seven days prior to the arrival of the vessel in order to facilitate clearance and avoid additional port charges, which can be significant if there are delays in clearing goods: the current rate is US\$3.03 per MT per day from the 16th day of the vessel's arrival in the port. Future implementing partners should take note of the required documents (listed above) and the schedule for submission so as to avoid clearing delays and possible increased costs.

¹⁷⁵ GoB Customs, August 2013

¹⁷⁶ GoB Customs, August 2013

¹⁷⁷ A good clearing agent may be able to argue to have this fee waived or reduced.

6.3. TRANSPORT

There are two primary routes for shipping imported goods to Burundi: 1) via the Northern Corridor whereby goods enter through the Port of Mombasa, then travel overland through Uganda before passing through Rwanda or Tanzania to Burundi; and 2) the Central Corridor where goods travel through the Port of Dar es Salaam and overland directly to Burundi. There is the option to ship via rail for part of the way in both corridors, though road is the only option for shipping into Burundi and to their final destination.

As noted in the 2012 Burundi USAID-BEST Analysis, road transport from the Port of Bujumbura is adequate. Paved roads leading north, east, and south are in place to move commodities within the country.¹⁷⁸



Photo by Fintrac Inc.

Conditions on major roads like this one are generally good in Burundi. Bujumbura, Burundi, August 2013.

6.3.1 Roads

The **Central Corridor** from the Port of Dar es Salaam overland to Burundi is approximately 1,166 km in length. Roads along this route are generally adequate to good. This route passes through the border post of Kobera, the town of Ngozi, and then on to Bujumbura, if that is the final destination, although goods can now be cleared at either Gitega or Bujumbura. As of the most recent in-depth diagnostic study on East African infrastructure (2011), there were seven fixed and three mobile truck scales on the route in Tanzania, not including police check points and customs at the border between Burundi and Tanzania.¹⁷⁹

¹⁷⁸ USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

¹⁷⁹ Nathan Associates Inc, 2011, Corridor Diagnostic Study of the Northern And Central Corridors of East Africa. <http://www.joyhecht.net/East%20>

In 2013, WFP reported that it cost US\$165 per MT to transport food overland from Dar es Salaam to Bujumbura and US\$150 per MT from Dar es Salaam to Ngozi via the border post at Kobero. The cost of shipping to Bujumbura via the Port of Kigoma is reportedly much higher due to the unpredictability of the rail line in Tanzania, which forces importers to transport goods via road.¹⁸⁰

The **Northern Corridor** is approximately 100 km longer than the Central Corridor, and typically passes through Kigali. Historically, there have been significant numbers of roadblocks and weigh stations along this route. Noting data from 2009, a 2011 World Bank study pointed out that truckers between Kigali and Mombasa reported a total of 47 such stops along this route. Interviews with transporters in Bujumbura using this route suggest that the number of checkpoints has decreased significantly, though the exact number still in place is unknown. Burundi and Rwanda have also installed two one-stop border posts along their borders to facilitate trade.

Despite the conclusion in a World Bank study that the Northern Corridor was slightly more cost effective than the Central Corridor,¹⁸¹ current evidence refutes this statement. For example, WFP reports that the Northern Corridor costs US\$228 per MT and US\$240 per MT from Mombasa to Bujumbura and Ngozi, respectively, significantly more than the Central Corridor. Interviews with various truckers also confirm their preference to use the Central Corridor due to the cost and the preference of importers to use the Port of Dar es Salaam.

Domestic Routes. The road network in Burundi is divided into two main categories: classified roads, which are maintained by the Ministry of Public Works and Equipment (*Ministere des Travaux Publics et de l'Equipelement/MPWE*) and managed by the Office for Roads (*Office des Routes/OdR*), and unclassified roads, which are managed by local governments and councils. Among the classified roads, National Roads (RN), which are generally paved or gravel, connect Bujumbura to primary towns. Provincial Roads (RP), which are also generally paved or gravel roads, are for travel between or within provinces in-country, as well as Communal Roads (RC), or roads within towns. Unclassified roads include over 6,000 km of roads managed by local governments, and includes 462 km of urban roads located in the capital.¹⁸²

Table 35. Paved and Unpaved Roads by Type in Burundi

Road Category	Total Length (km)	Unpaved (km)	Paved (km)
National Roads	1,945	842	1,103
Provincial Roads	2,522	2,501	21
Communal Roads	282	282	0
Urban Network (Bujumbura only)	462	0	462
Total Classified Network	5,211	3,625	1,586

Source: WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013.

Paved roads are generally in good condition and are well maintained. Dirt and gravel roads can be difficult to use in the rainy season. Also, mud slides can cause a problem for both paved and unpaved roads.¹⁸³ According to the OdR, there is a study financed by the World Bank to consider the feasibility of widening the main road on the two corridors from 6 m to 7 m.¹⁸⁴

The road from Itaba in Gitega Province to Ruyigi town in Ruyigi Province remains potholed, and this poor condition directly affects the PM2A program in Ruyigi and Cankuzo. The current cost of transporting food from Ruyigi to outlying parishes using varying truck sizes of 20MT or less is approximately US\$18 per MT.¹⁸⁵ The OdR intends to rehabilitate the road between Itaba and Ruyigi in early 2014. Other road works in progress include 80 km of paved road between Ngozi and Gitega and 60 km from Cankuzo to Muyinga; these improvements should be completed in late 2014.¹⁸⁶

6.3.2 Rail

The rail line at the Port of Dar es Salaam runs westward across the country to the Port of Kigoma, where goods are then transferred to barge and transported up to Bujumbura.

WFP/Tanzania noted in 2012 that about 60 percent of the locomotives that run the route between Dar es Salaam and Kigoma need major repair or replacement, and about 1/3 of the covered wagons and 1/5 of the flat bed carriers need replacement or repair as well.¹⁸⁷ WFP/Tanzania concluded that therefore it was best to transport food assistance from the Port of Dar es Salaam to Bujumbura by road.¹⁸⁸ In 2013, all key informants stated that the rail line remained in poor condition and was not a viable option for transporting goods.

[Africa%20Climate%20Change/Nathan%20Assoc%20East%20Africa%20Transport%20Corridors%20Diagnostic%20Study%202011.pdf](http://www.wfp.org/publications/2013/07/13/000158349_20111013121848/Rendered/PDF/WPS5844.pdf), accessed July 2013.

180 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

181 World Bank, 2011, Policy Research Working Paper: East Africa's Infrastructure - A Continental Perspective. http://www-wds.worldbank.org/servlet/WDSContentServer?WDSPath=IB/2011/10/13/000158349_20111013121848/Rendered/PDF/WPS5844.pdf, accessed July 2013.

182 WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013.

183 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

184 Personal interview with director of OdR, August 2013

185 Source: CRS, 2013, PM2A Transport Costs, 2010 - June 2013.

186 Personal interviews with OdR, August 2013.

187 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

188 WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013.

6.3.3 Recommended Food Aid Routes

WFP ships 80 percent of its food aid through the Port of Dar es Salaam and then transports the goods overland via road so as to reach Gitega, Muyinga, and Ngozi towns before arriving at the capital of Bujumbura.¹⁸⁹

CRS ships goods for its PM2A program (and for its MYAP program before its completion) via the Port of Dar es Salaam and then trucks those commodities to its storage sites in Ngozi and Ruyigi. PM2A commodities are then typically distributed through parish storage structures run by Caritas.¹⁹⁰

Smaller volumes of food aid also travel via other corridors, such as through the Port of Mombasa in Kenya and then overland via truck through Uganda, Rwanda, or Tanzania before reaching northern Burundi. Some regionally procured food aid from Zambia is loaded onto barges from the Port of Mpulungu and then shipped to Bujumbura.¹⁹¹ At the present time no food aid is currently shipped overland via rail from Dar es Salaam to the Port of Kigoma on Lake Tanganyika.

Future Title II food aid shipments should continue to arrive at the Port of Dar es Salaam, despite a more competitive ocean freight rate for shipments to Mombasa, because the shorter overland transport time means less transit risk and a substantial reduction of cost in using the Northern Corridor.¹⁹² Additionally, the Port of Dar es Salaam is improving and may become more competitive. Note however that this route should be reviewed if and when the rail between Dar es Salaam and Kigoma is refurbished because such a restoration could result in lower cost of freight between Dar es Salaam and Bujumbura.

6.4. STORAGE FACILITIES

Leakage of food aid commodities appears to be minimal. WFP and CRS have incurred less than one percent in losses over the last four years. The majority of CRS losses are inland (transit) losses because of truck accidents. These losses appear reasonable and consistent with the operating environment.

Table 36. Losses Incurred by WFP and CRS (%), 2009-2012

Organization	2009	2010	2011	2012	Average
WFP	0.27	0.12	0.42	0.27	0.27
CRS	0	1.45	0.55	1.78	1.26
Average	0.14	0.79	0.49	1.03	0.77

Source: Created by USAID-BEST, using WFP and CRS reports.

¹⁸⁹ Interviews with WFP Burundi logistics August 2013

¹⁹⁰ Interviews with CRS Burundi, August 2013

¹⁹¹ Interviews with WFP August 2013

¹⁹² When comparing the cost of shipping via the Central Corridor vs. shipping via the Northern Corridor, as noted above.

6.4.1 Donor Storage

The primary WFP warehouse, with storage available for approximately 8,500 MT of goods, is located in Bujumbura. Another facility in Ngozi can hold 9,000 MT of goods.¹⁹³ WFP also has storage facilities in smaller cities and towns throughout the country. CRS has warehouses in Ngozi and Ruyigi with a capacity of 3,000 MT and 1,500 MT, respectively. UNHCR also has a number of facilities throughout the country that serve refugee camps in Burundi and Tanzania.¹⁹⁴

Table 37. Storage Capacity for Select Organizations (MT)

Area	WFP (Fixed)	WFP (Rub hall)*	UNHCR (Fixed)	UNHCR (Rub hall)	CRS	TOTAL
Bujumbura	2,000	6,500	965	0	0	9,465
Ngozi	4,450	4,550	0	0	3,000	12,000
Gitega	1,500	0	0	0	0	1,500
Makamba	0	750	598	227	0	1,575
Muyinga	0	0	346	0	0	346
Ruyigi	0	0	470	227	1,500	2,197
Total	7,950	11,800	2,379	454	4,500	27,083

Source: Created by USAID-BEST, using data from interviews.

* Note that the maximum capacity of a Wiikhall (aka "rub hall") is 400 MT and the minimum is 320 MT. The average of 350 is used here (Source: Personal Communication from Mohamed Musa, WFP, September 2013).

Additionally, the International Rescue Committee has storage facilities in-country, and the table below lists capacity by location.

Table 38. IRC Storage Capacity (Cubic Feet)

Location	Cubic feet
Bujumbura: LSP*	3,080
Bujumbura: Main office	3,570
Makamba	3,110
Ruyigi	2,420
Muyinga	1,212
Total	13,392

Source: Personal Communication from IRC, October 2013.

* A separate compound space for storage and maintenance of vehicles and supplies related to work with the UNHCR Refugee Transit Centers and camps. Source: Personal Communication from IRC, October 2013.

¹⁹³ WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013. Data supplied by WFP Burundi August 2013

¹⁹⁴ USAID-BEST, January 2012, Burundi USAID-BEST Analysis. Source: Data gathered from interviews, August 2013.

6.4.2 Private Sector Storage

Storage is available on the private market as well. Bollore Logistics has a facility with 4,000 square meters (sq. m.) of storage in Bujumbura.¹⁹⁵ This facility has been used by WFP and UNHCR in the past and is in reasonable condition. There are other facilities available in Bujumbura:

- The Ntagabo-Vondro facility with 2,200 sq. m. of space.¹⁹⁶
- Gravinport has about 2,000 sq. m of warehouse space near the Port of Bujumbura that is currently used to store cement, but management noted they would be willing to customize the facility to meet food aid standards in terms of ventilation should they be offered a medium term contract.
- Rafini, the cottonseed oil refinery, has about 1,200 sq. m of storage space located away from their factory facility that is in fair condition, but would need some rehabilitation.

Towns like Gitega and Ngozi have a small number of facilities that are available on the private market, generally with capacity of less than 1,000 MT. However, the BUDECA coffee processing facility in Gitega has 12,000 MT of storage capacity available via three large-scale, well-ventilated, and well-equipped warehouses. Storage at this location is currently only available when coffee production is in the off-season (September/October-May), although management suggests that moving forward it may be possible to rent warehousing space year round. Further, the facility has space to build additional warehousing if a client could cover the costs to do so.¹⁹⁷ Interested parties should contact BUDECA for further information.

6.4.3 Storage Available at Regional Ports

Port of Dar es Salaam. The Port of Dar es Salaam has 50,200 sq. m. of covered storage, and 100,000 sq. m. of open air storage.¹⁹⁸ Congestion at the Port of Dar es Salaam led the Tanzanian Ports Authority to invest in a number of inland container depots (ICDs) which together have a capacity of 358,000 MT. The 2012 Burundi USAID-BEST Analysis notes that privatization of these container operations at the port has helped decongest the port.¹⁹⁹

Although the Port of Dar es Salaam has a grain terminal equipped with fully automated silos at a capacity of 30,000 MT, the silos are inoperable due to mechanical and electrical issues.²⁰⁰ However, the expected upgrades noted above would

195 2012, Bollore Africa Logistics in Burundi. <http://www.bollore-africa-logistics.com/en/who-we-are/subsidiaries-in-africa/burundi.html>, accessed July 2013.

196 WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013.

197 Source: Personal communication with Glen Shonubi, (BUDECA Management). August 2013.

198 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

199 USAID-BEST, January 2012, BEST Analysis: Burundi. ; USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

200 WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

resume silo operations within the current fiscal year.²⁰¹ The Ministry of Transport has prioritized rehabilitating this facility and is exploring various partnerships and outsourcing possibilities that would ensure resumed operations at the same capacity.²⁰²

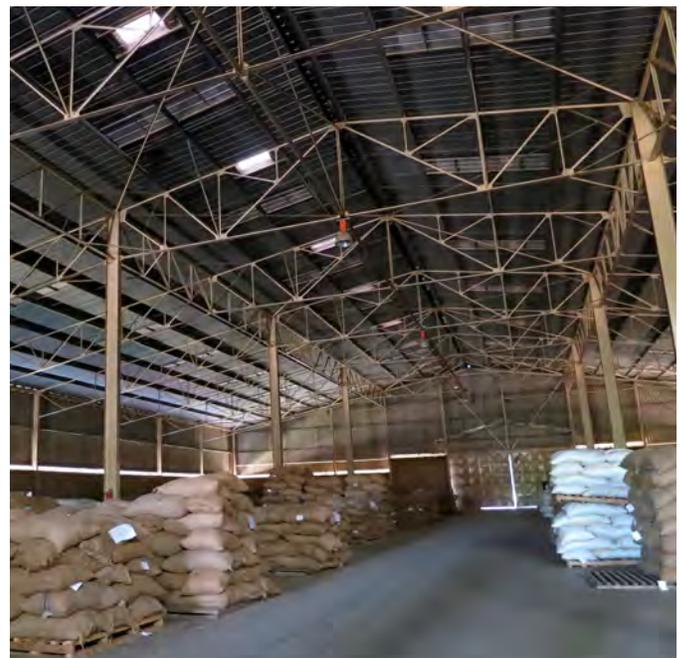


Photo by Fintrac Inc.

There is adequate storage capacity in Burundi, however there are not many exceptionally large industrial-size storage facilities like those of BUDECA, pictured above. These are only available in the coffee-growing off-season. Gitega, Burundi, August 2013.

WFP has approximately 15,000 MT of warehouse storage at the port and it also has 12,600 MT of storage via Wiikhalls/rubhalls (temporary storage facilities) at the ICD located at the Isaka railhead, which is 1,000 km from the port.²⁰³

Port of Bujumbura. The port has four large and durable hangars with approximately 160,000 sq. m. between them. It has smaller hangers with storage space totaling 2,560 sq. m. The Global Port group that manages the Port of Bujumbura also maintains a storage facility with 18,560 sq. m. of space that is in good condition.²⁰⁴ Additionally, the private sector in Bujumbura has storage space at this port (e.g. Bollore, a major storage and logistics company, has a presence in the area).²⁰⁵

201 Sara Jerving, 2013, Tanzania to Upgrade Dar es Salaam Port to Compete With Mombasa. <http://www.bloomberg.com/news/2013-06-25/tanzania-to-upgrade-dar-es-salaam-port-to-compete-with-mombasa.html>, accessed July 2013.

202 Tanzania Exchange, 2013, Dar es Salaam port seeks grain terminal operator. <http://tzexchange.blogspot.com/2012/11/dar-es-salaam-port-seeks-grain-terminal.html>, accessed August 2013.

203 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

204 WFP, 2012, Burundi Logistics Capacity Assessment. <http://dlca.logcluster.org/BDI/index.html>, accessed July 2013. WFP, 2012, Tanzania Logistics Capacity Assessment. <http://dlca.logcluster.org/TZA/index.html>, accessed July 2013.

205 USAID-BEST, January 2012, Burundi USAID-BEST Analysis.

Port of Mombasa. The port has 137,000 sq. m. of stacking space for containers, 62,890 sq. m. of open air space for storage, and approximately 37,000 sq. m. of covered floor space in transit sheds.²⁰⁶ The port also maintains two ICDs with dry port capacity; the larger of the two is designed to handle 180,000 TEUs per year, and the smaller of the two is designed to handle 15,000 TEUs per year.²⁰⁷ WFP rents about 82,000 MT of storage in and around the port.²⁰⁸

Grain Bulk Handlers Limited, a private company, operates the grain terminal. Their facilities can discharge vessels via conveyor belts at a rate of 900 MT per hour, or 21,600 MT per day. The company has 75,000 MT of long-term silo storage, and can receive bonded cargo for customers. The company is also investing in an additional 55,000 MT of storage.²⁰⁹

6.5. IMPLICATIONS FOR TITLE II PROGRAMMING

6.5.1 Ports

The Port of Dar es Salaam is adequately equipped and has the necessary capacity to handle large quantities of food aid for monetization and direct distribution. The Port of Mombasa has sufficient capacity to handle food aid consignments but at present it is not a practical alternative because of the extra distance to Burundi, multiple border crossings, and associated costs of transport. Additionally, security may sometimes be problematic in the Mombasa area.

Geographically, Dar es Salaam lies closer to Burundi than Mombasa. The road transport network from the port to Burundi is sufficient and allows for deliveries in a reasonable period all year round and at the most competitive rates. WFP and the current Title II implementing partner (CRS) are utilizing this port for their programs in Burundi and have reported relatively insignificant delays, damages, and losses. Future Title II implementing partners should take into account the development of the Port of Mombasa and the Port of Dar es Salaam because on-going infrastructure improvements could change the practicality of one port over the other. However, the stricter control of GMO goods will also be a concern for some Title II food aid commodities from Mombasa.

6.5.2 Transport

Currently all food aid that arrives in Bujumbura from either Dar es Salaam or Mombasa arrives by road via Kanyaru or Kobero, respectively. Although only 1/3 of the roads are paved in Burundi, most of the major warehouses used by Title II partners are in

centers serviced by paved roads. However, the final distribution storage facilities are mainly accessed from unpaved roads. Even in such conditions, these sites remain accessible throughout the year and there have been no reports of pipeline breaks or a need to preposition commodities.

The trucks used for shipping - almost all from Tanzania - appear to be in good enough condition to transport food aid from the port to warehouses in Burundi. Additionally, there are sufficient trucks of varying sizes to transport the food aid from primary warehouses to the final distribution storage sites in the provinces.

6.5.3 Storage

Storage in the main centers such as Bujumbura, Ngozi, and Ruyigi appears adequate, but storage at final distribution points pose a greater challenge depending on the districts. The current awardee is using parish buildings for storage at these final distribution sites; however, the availability of these facilities in the next Title II cycle is questionable given the unique relationship the awardee has with these centers (which is religious in nature). There are schools and clinics with some rudimentary facilities that may be upgraded into suitable storage facilities for limited quantities of food, but the partner responsible for the final distribution will play a key role in determining the facility used.²¹⁰ Overall though, in-country storage is sufficient to handle large volumes of food aid coming into Burundi.

206 Kenya Ports Authority, 2013, Kenya Ports Authority Handbook 2012-2013. <http://issuu.com/landmarine/docs/kpa2012-13?e=1056874/1898975>, accessed July 2013.

207 Kenya Ports Authority, 2013, Kenya Ports Authority Handbook 2012-2013. <http://issuu.com/landmarine/docs/kpa2012-13?e=1056874/1898975>, accessed July 2013.

208 USAID-BEST, 2012, South Sudan USAID-BEST Analysis.

209 Kenya Ports Authority, 2013, Kenya Ports Authority Handbook 2012-2013. <http://issuu.com/landmarine/docs/kpa2012-13?e=1056874/1898975>, accessed July 2013.

210 For example, a health focused partner may be inclined to use clinics rather than schools. International Medical Corps did precisely that in the last MYAP.

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for Title II (USAID-BEST)

**USAID OFFICE OF FOOD FOR PEACE
BURUNDI USAID-BEST ANALYSIS
ANNEXES**

SEPTEMBER 2013

This report is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of Fintrac Inc. and do not necessarily reflect the views of USAID or the United States government.

PREFACE

The following annexes present essential background information to the full USAID-BEST report, including information on the macroeconomy, agricultural sector; household consumption and expenditure patterns, food security, and a detailed calculation of import parity price. USAID-BEST also provides a list of contacts from the research and field work as well as references cited.

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ANNEX I MACROECONOMIC OVERVIEW

I.1. GDP/GNP PER CAPITA

Table 1. GDP Indicators, 2007-12

Indicator Name	2007	2008	2009	2010	2011	2012
GDP (constant 2005 US\$, in 1000's)	1,233,764	1,296,046	1,340,998	1,391,767	1,450,105	1,508,157
GDP (current US\$, in 1000's)	1,356,078	1,611,634	1,739,783	2,026,864	2,355,652	2,471,954
GDP growth (annual %)	4.79	5.05	3.47	3.79	4.19	4.00
GDP per capita (current local currency unit)	176,158	221,572	239,758	270,186	311,377	362,027
GDP per capita growth (annual %)	1.19	1.44	(0.04)	0.35	0.83	0.74

Source: World Bank.

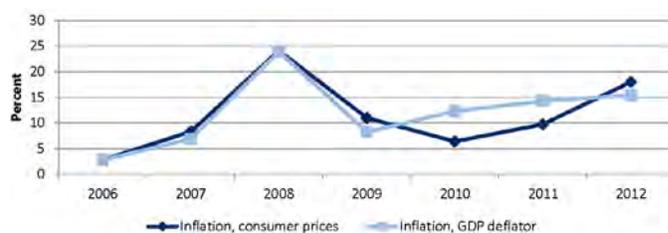
Table 2. GDP by Sector (%), 2007 vs. 2012

Sector	2007	2012
Agriculture, hunting, forestry, and fishing	38	41.2
Mining	0.7	0.8
Manufacturing	12.7	15.2
Electricity, gas, and water	0.9	1.3
Construction	4.3	4.4
Wholesale and retail trade, hotels and restaurants	5.2	3.3
Transport, storage and communication	21.5	19.6
Finance, real estate and business services	0.9	-0.2
Public Administration, Education, Health & Social Work, Community, Social & Personal Services	7.6	6.5
Other services	8.1	8.1
Gross domestic product at basic prices / factor cost	100	100

Source: OECD, AFDB, and UNDP, 2013, "Burundi" in African Economic Outlook 2013: Structural Transformation and Natural Resources. <http://www.africaneconomicoutlook.org/en/countries/east-africa/burundi/>, accessed July 2013.

Notes: Data from domestic authorities; estimates and prediction based on OECD calculations.

Figure 1. Trends in Inflation (%), 2006-12



Source: World Bank.

I.2. GLOBAL/REGIONAL ECONOMIC LINKAGES

Table 3. Major Treaties, Memberships and Economic Accords

Year	Type	Organization	Description
2010	Multilateral	East African Community	Promote the free movement of goods, services, labor and capital in member states, boosting trade and investment and make the region more prosperous and productive.
2008	Multilateral	African Free Trade Zone Agreement (AFTZ)	Stronger international bargaining power for member states.
2006	US	African Growth and Opportunity Act (AGOA)	Expand US trade and investment in sub-Saharan Africa. Provides duty-free access to US market for over 7000 product lines.
2000	EU	Cotonou Agreement	Reciprocal duty-free trade agreements between EU and African, Caribbean, and Pacific countries.
1995	Multilateral	World Trade Organization (WTO) agreement	Facilitate trade between member states.
1993	Multilateral	COMESA	Preferential and free trade areas. Common tariff on imports from non-member states.
1983	Multilateral	Economic Community of Central African Countries	Promote cooperation and economic development within and between member states.
1976	Multilateral	Great Lakes Economic Community	Improve security, reduce poverty, promote economic development etc. in member states.
1963	Multilateral	The International Monetary Fund (IMF) agreements	Promote growth and economic stability. Provide advice on policy and financing to members; work with developing countries to reduce poverty and reach macroeconomic stability.
1963	Multilateral	The World Bank group (WB) agreements	Provide support to developing countries via financial products and services, as well as knowledge sharing.
1962	Multilateral	The United Nations (UN) and its Specialized Agencies agreements and treaties	Promote peace, friendly relations, and better living standards among member countries.

Source: UN, WTO, IMF, World Bank, African Union, East African Community, COMESA, EAC, Economic Community of Central African Countries, Great Lakes Economic Community, European Commission.

I.3. MAJOR PRODUCTS AND SERVICE INDUSTRIES

Burundi is heavily reliant on agriculture. Although the sector only accounted for 41.2 percent of GDP in 2011, it employed an estimated 80-90 percent of the country's population. Other major sectors include transport, storage, and communication (19.6 percent of GDP), manufacturing (15.2 percent of GDP), other services (8.1 percent of GDP), and "Public Administration, Education, Health & Social Work, Community, Social & Personal Services."¹ Exports of coffee and tea account for only a small fraction of GDP, approximately US\$86 million in 2012,² compared to a total GDP of approximately US\$2 billion that same year.³ Together, they account for more than 70 percent of the country's foreign exchange.

1 OECD, AFDB, and UNDP, 2013, "Burundi" in African Economic Outlook 2013: Structural Transformation and Natural Resources. <http://www.africaneconomicoutlook.org/en/countries/east-africa/burundi/>, accessed July 2013.

2 Ibid.

3 Banque de la République du Burundi, January 2013, *Indicateurs de conjoncture*. Note: GDP provided in local currency and converted at cited exchange rate in publication.

I.4. MAJOR SHIFTS IN POLICY, STRUCTURE, OR PERFORMANCE

Table 4. Overview of Main Economic Policies

	Policy	Purpose	Date
Previous	Burundi Strategic Framework for Economic Growth and Poverty Alleviation (CSLPI)	Macroeconomic stability, economic growth, and poverty alleviation. Prioritized national investments in social development sectors such as education and health. An economic growth of 6-7%, doubling the per capita GDP within 15 years	2006-10
Current	Burundi Strategic Framework for Economic Growth and Poverty Alleviation (CLSP II)	The CLSP II pursues the same objectives as the previous CSLP.	2010-15
Current	Burundi Vision 2025	Promote a significant increase in the per capita GDP from US\$137 in 2010 to \$US720 in 2025 Reduce the poverty rate from 67% in 2010 to 50% in 2025	2010-25

Sources: GoB, CSLP, 2010; MINAGRIE, 2011.

Performance. A successful Strategic Framework for Economic Growth and Poverty Alleviation is tied to agricultural policies, although expected growth has not yet been achieved.

Inflation has been continuously managed. The inflation rate decreased to 7.6 percent in June 2010 and then to 6 percent in July of the same year - down from 28.6 percent the previous year. At the same time however, Burundi has run an international trade deficit, with the share of imports covered by exports decreasing from 27.2 percent to 14.3 percent between 2004-09. With an average monthly trade deficit of Burundian Franc 31 billion since 2006, the country is acutely dependent on concessional external financing. In January 2009, the country reached the completion point of the Heavily Indebted Poor Countries initiative and so is eligible for relief of the entirety of its external debt, including multilateral debt (Multilateral Initiative Debt Discount), which will provide the country with access to significant financial support.

ANNEX 2

AGRICULTURAL SECTOR OVERVIEW

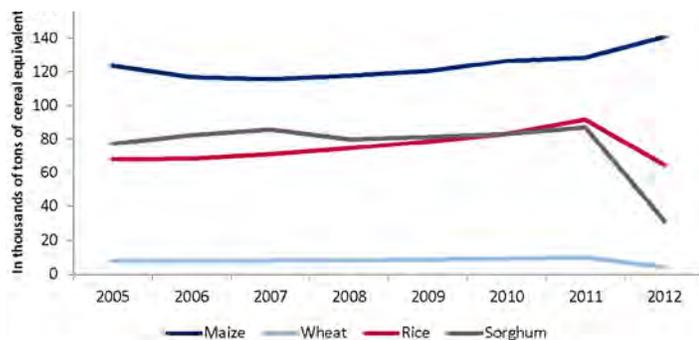
2.1. INTRODUCTION

This Annex displays survey and price data provided by international organizations and the Ministry of Agriculture of Burundi. It concludes with a summary of national policies affecting agriculture. The Annex contains estimations on four topics:

1. Crop production and trends,
2. Seasonality and prices of crops,
3. Major import and export quantities, and
4. Key policies and initiatives.

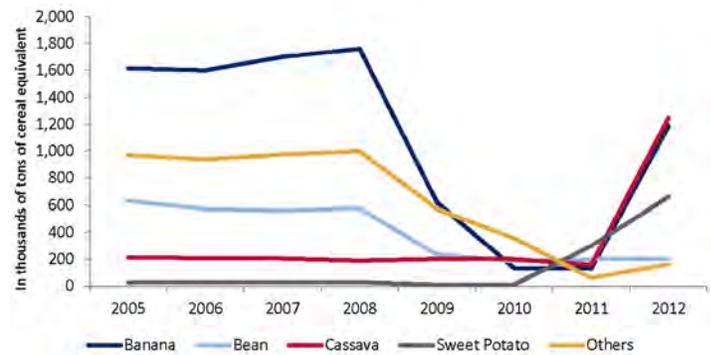
2.2. PRODUCTION BASE AND TRENDS

Figure 2. National Cereal Crop Production, 2005-12



Source: For 2005-2011: GoB, *Ministère de l'Agriculture et de l'Élevage, Département de la Statistique et Information Agricole*. For 2012: GoB, *Rapport ENAB 2011-2012*.

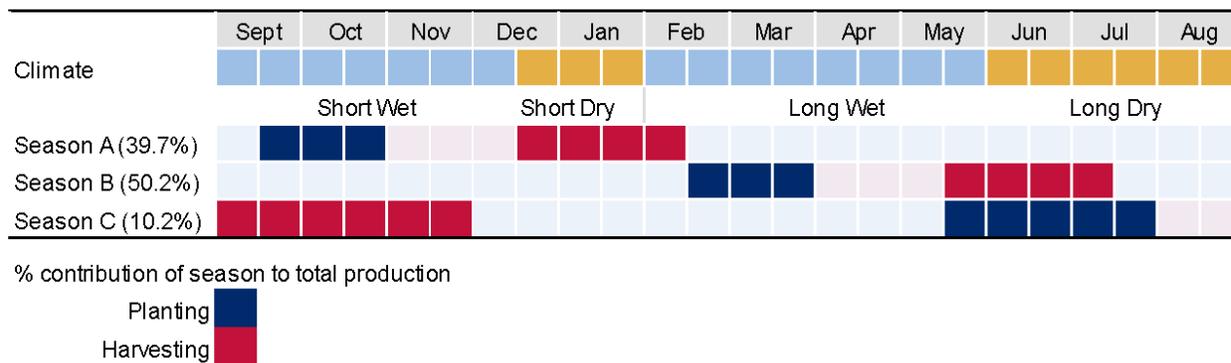
Figure 3. National Tuber and Legume Crop Production, 2005-12



Source: For 2005-2011: GoB, *Ministère de l'Agriculture et de l'Élevage, Département de la Statistique et Information Agricole*. For 2012: GoB, *Rapport ENAB 2011-2012*.

2.3. SEASONALITY OF PRODUCTION AND PRICES

Figure 4. Agricultural Seasons



Source: WFP, CFSVA, 2008.

Table 5. Agricultural Seasons with Main Crops and Food Production

Month	Weather	Season	Main Crops	Approximate Annual Food Production (%)
October	Rain	A	Maize, Beans, Potato,	20-35
November	Rain		Sweet Potato, Peanuts, Soybeans	
December	Rain		Banana, Sorghum	
January	Dry			
February	Rain	B		50-65
March	Rain		Beans, Potato, Sweet Potato,	
April	Rain		Vegetables	
May	Rain			
June	Rain 1st half			
July	Dry	C	Maize, Beans, Potato, Rice	10-15
August	Dry		Sweet Potato	
September	Rain 2nd Half			

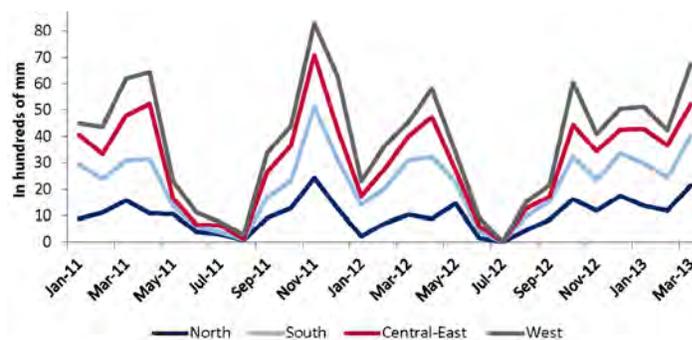
Source: 2009 Burundi USAID-BEST Analysis.

Table 6. Regions of Burundi

Region	Province
North	Kayanza, Kirundo, Muyinga, Ngozi
South	Bururi, Makamba, Mwaro, Rutana
Central-East	Cankuzo, Gitega, Karuzi, Muramvya, Ruyigi
West	Bubanza, Bujumbura, Cibitoke

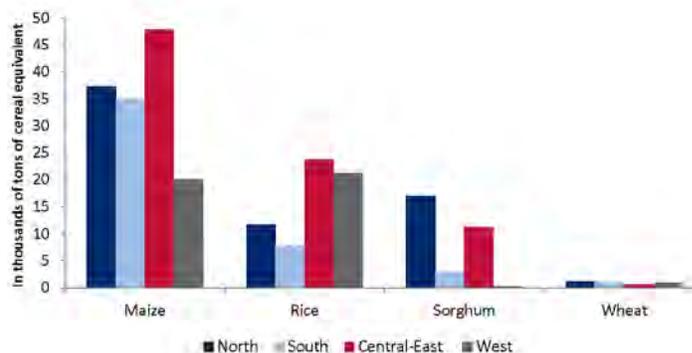
Source: Created by USAID-BEST.

Figure 5. Precipitation Level (mm), 2011-13*



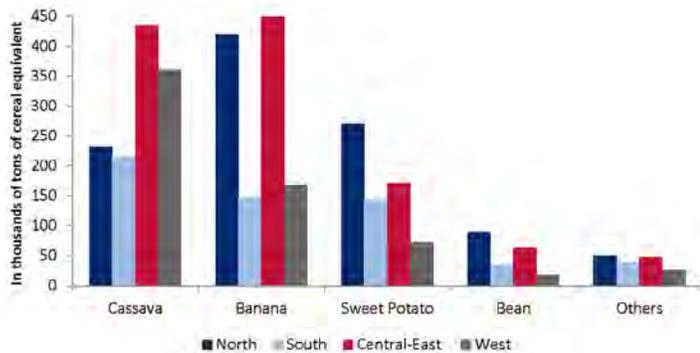
Source: Institut Geographique du Burundi (IGEUBU).
*January-March 2013.

Figure 6. Main Cereal Crop Production by Region, 2011-12



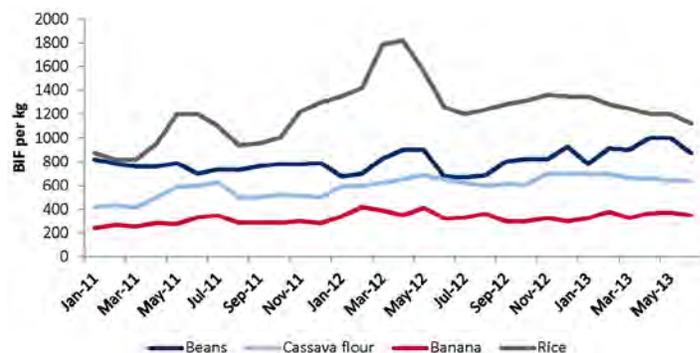
Source: GoB, Rapport ENAB 2011-2012.

Figure 7. Main Tuber and Legume Crop Production by Region, 2011-12



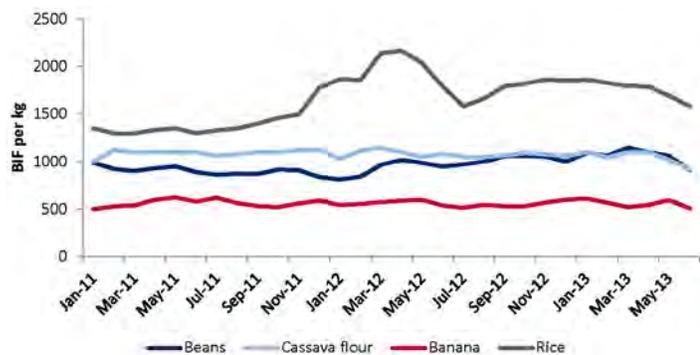
Source: GoB, Rapport ENAB 2011-2012.

Figure 10. Price Trend of Selected Commodities in Ngozi, 2011-13



Source: GoB, Ministry of Agriculture.

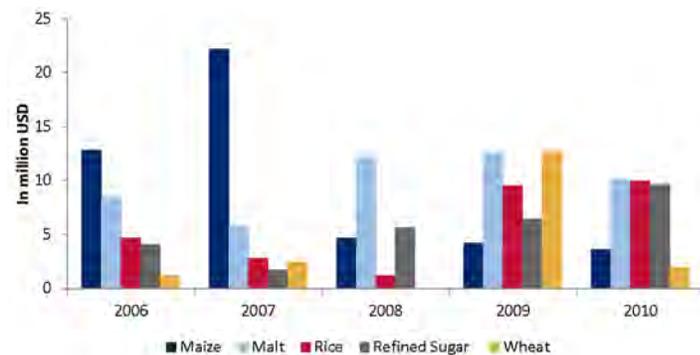
Figure 8. Price Trend of Selected Commodities in Bujumbura, 2011-13



Source: GoB, Ministry of Agriculture.

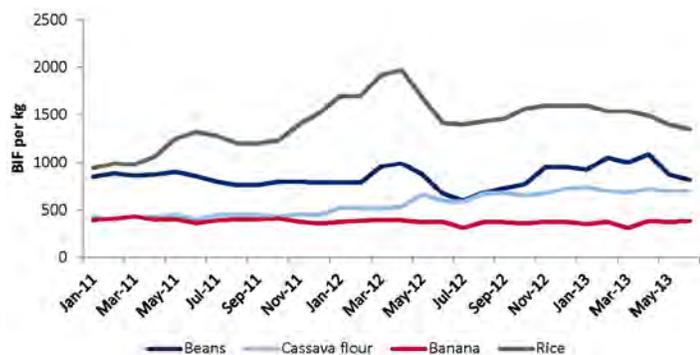
2.4. IMPORTS

Figure 11. Main Agricultural Imports, 2006-10



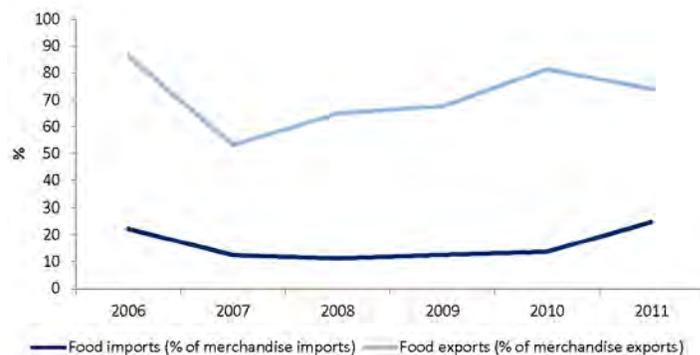
Source: FAO, FAOSTAT.

Figure 9. Price Trend of Selected Commodities in Gitega, 2011-13



Source: GoB, Ministry of Agriculture.

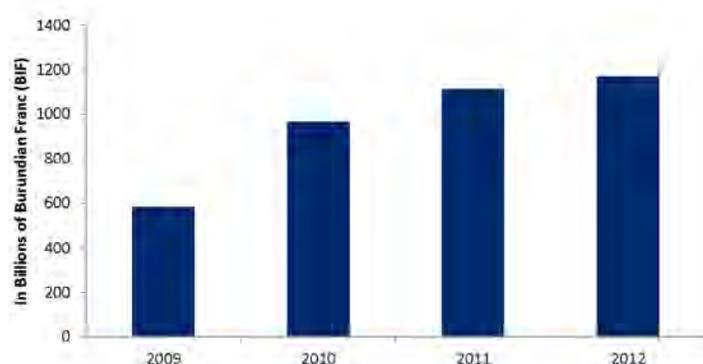
Figure 12. Share of Food Import and Export (%) in Total Trade, 2006-11



Source: Work Bank Databank.

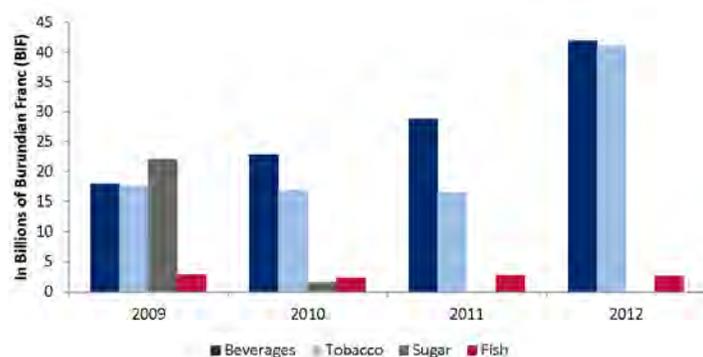
2.5. EXPORTS

Figure 13. Export of Coffee and Tea, 2009-12



Source: GoB and the Institute of Economic Studies and Statistics (ISTEEBU).

Figure 14. Main Agricultural Exports, 2009-12



Source: GoB, ISTEEBU.

Table 7. Main Shocks Affecting Agricultural Production, Season 2013 A

Province	Commune	Main causes
Cankuzo	Kigamba	Locust invasion and hail
Bururi	Rumonge	Number of returnees, erratic rains
Gitega	Buraza, Giheta	Flood, land scarcity, overpopulation
Kayanza	Kabarore	Climatic hazards; soil degradation
Kirundo	Bugabira, Busoni	Late rains and later strong precipitations
Makamba	Nyanza Lac and Kayogoro	Climatic hazards, cassava and banana disease, number of returnees
Muyinga	Buhinyuza, Mwakiro and Gasorwe	Climatic hazards (irregular precipitations)
Mwaro	Gisozi and Ndava	Climatic hazards (irregular precipitations)
Ngozi	Mwumba, Gashikanwa, Ruhororo	Land scarcity, overpopulation
Rutana	Mpinga, Kayove, Giharo, Gitanga	Flood and hail
Ruyigi	Kinyinya, Gisuru	Irregular precipitation

Source: Report from Season 2013A, MINAGRIE, WFP, FAO.

2.6. KEY POLICIES AND INITIATIVES

Table 8. Overview of the Current Agricultural Policies in Burundi

Policy	Purpose	Date
National Agricultural Strategy (SAN)	Increase agricultural production Professionalization of producers Development of value chains	2008-15
Action Plan of the National Agricultural Strategy	Enable implementation of the SAN	2009-11
National Food Security Program (PNSA)	Promote sustainable increase in food production alleviating hunger and malnutrition Recover food insufficiency, improve nutritional coverage of population, and develop a consistent food aid system for emergencies	2009-15
Strategic Document for Livestock Orientation (DOS)	Increase value added products in livestock Increase share of livestock in food and nutritional security	2010-15
National Agricultural Investment Plan (PNIA)	Sustainable increase of productive capital Professionalization of producers and promotion of innovation Development of value chains and agri-businesses Improvement of the Institutional framework	2012-17
Comprehensive African Agriculture Development Program (CAADP)	Increase public investments in agriculture to at least 10% of the national budget	2006-15
Fertilizers' subsidization	Increase access to fertilizer for poor farmers	2006-13
Fund for fertilizers	Provide subsidized fertilizers*	2005-13

Sources: MINAGRIE, 2011; International Fund for Agriculture Development, 2012.

ANNEX 3

HOUSEHOLD CONSUMPTION AND EXPENDITURE PATTERNS

3.1. INTRODUCTION

This Annex provides supplementary information on household (HH) consumption and expenditure patterns in Burundi. This information is derived primarily from the 2010 Government of Burundi (GoB) Demographic and Health Survey (*Enquête Démographique et de Santé 2010*), the WFP Comprehensive Food Security & Vulnerability Analysis (CFSVA), and the FEWS NET Livelihoods Zoning “Plus” Activity in Burundi. The topics covered are:

5. Local diets and food sources,
6. Income sources,
7. Expenditure patterns,
8. Poverty rates
9. Natural regions, and
10. Livelihood zones.

3.2. LOCAL DIETS AND FOOD SOURCES

3.2.1 Local Diets

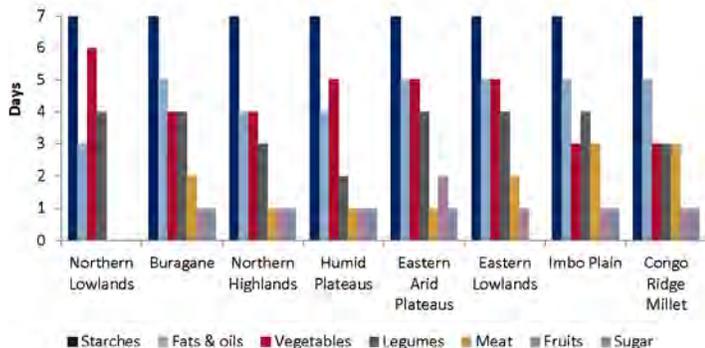
Cassavas compose a quintessential part of every Burundian meal and are mainly consumed as *ugali*, a paste formed from cassava flour. Dry beans are also widely consumed with maize, rice, or other staples. HHs consume greater portions of root tubers like cassava and sweet potatoes as they are cheaper for the same weight and energy content as beans. In the past two decades, due to increasing prices in the domestic market, consumption of meats and fruits has decreased. In the urban market, more processed food has taken over, but with better nutritional education and higher income people are also opting for fruits and vegetables. Most of the staples are obtained locally and commodities like rice, sugar, and refined vegetable oil, are occasionally imported from neighboring countries.

Table 9. Main Foods Consumed, by Area

Commodity	Urban	Rural
Cassava flour	Mostly consumed as ugali and makes up a major portion of the meal.	Mostly consumed as ugali and make up a major portion of the meal.
Banana	Mostly consumed as fried, boiled, and occasionally mashed.	Consumed as boiled and are mostly used for beer and wine production.
Potatoes and Sweet potatoes	Mainly consumed as fried, boiled, or mashed.	Usually boiled but occasionally fried.
Beans	Consumed cooked with other staples. Yellow beans are consumed by higher income households.	Consumed cooked with other staples. Most households consume red and mixed red varieties. Yellow beans are consumed in limited quantities due to their high price.
Maize	Consume white maize flour mixed with other cereals and soybeans.	Maize meal mixed with sorghum and soybean for porridge. Consumed fresh, roasted, boiled in water.
Wheat	Mostly consumed by high income population as bread. Also consumed as ugali.	Mostly consumed as porridge, sometimes mixed with maize, sorghum, soybean, and wheat.
Rice	Consume white (or husked) rice on average two times a day.	Limited consumption. Only in areas where rice is grown.
Sorghum	Limited consumption - mixed with maize meal and soybeans.	Mostly used in beer production and in making porridge for children in sorghum-producing areas.
Vegetable	Variety of fresh and cooked vegetables.	Depends on the region. Mostly consume peas, cassava leaves, tomatoes, and leafy vegetables.
Oil	Vegetable oil is used by high and medium income population. Palm oil is used by everyone in general.	Very limited consumption of vegetable refined oil. Households mostly use unrefined palm oil.

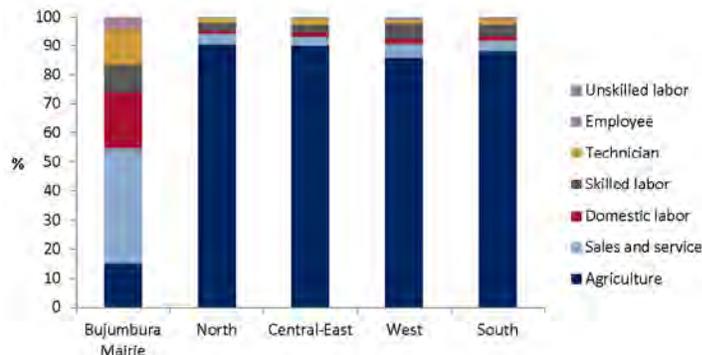
Source: Created by USAID-BEST.

Figure 15. Consumption of Food Items (Days per Week) by Livelihood Zone, 2013



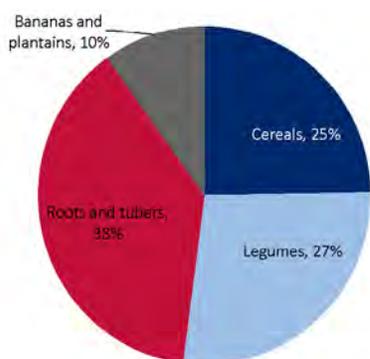
Source: WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

Figure 18. Employment Distribution by Region, 2010



Source: GoB, *Enquête Démographique et de Santé 2010*.

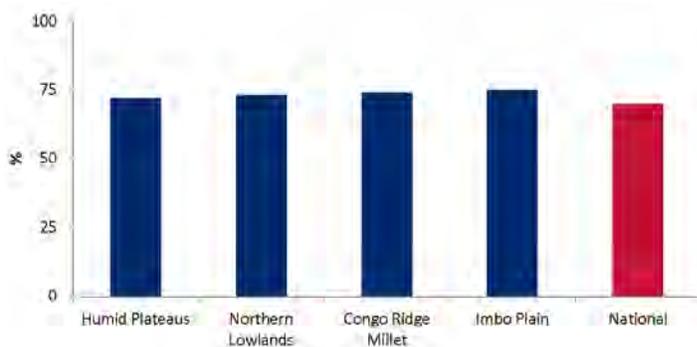
Figure 16. Food Consumption (%) by Type, 2012



Source: WFP November 2012, *Analyse des données secondaires de la sécurité alimentaire, vulnérabilité et nutrition au Burundi*.

3.4. EXPENDITURE PATTERNS

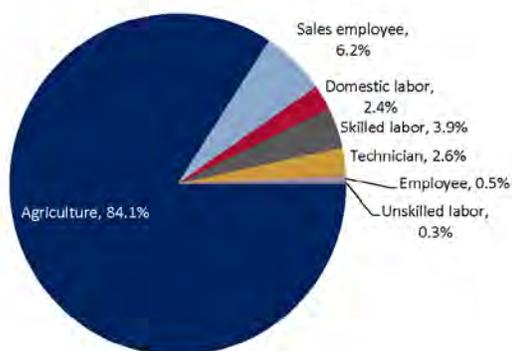
Figure 19. Household Food Expenditure (%) by Zones, 2012



Source: WFP, *Système de Suivi de la Sécurité Alimentaire (SSSA-FSMS) Bulletin*, April 2012.

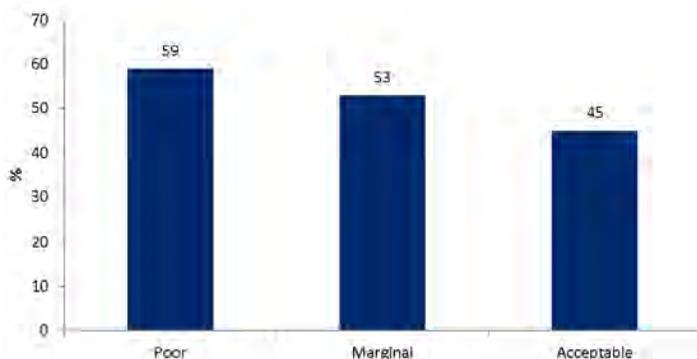
3.3. INCOME SOURCES

Figure 17. Employment Distribution (% of population), 2010



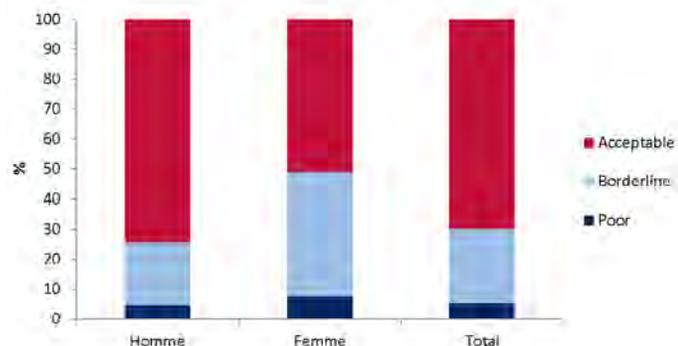
Source: GoB, *Enquête Démographique et de Santé 2010*.

Figure 20. Household Expenditure on Staple Food (%) by Consumption Level, 2012



Source: WFP Burundi *Système de Suivi de la Sécurité Alimentaire (SSSA-FSMS) Bulletin*, April 2012.

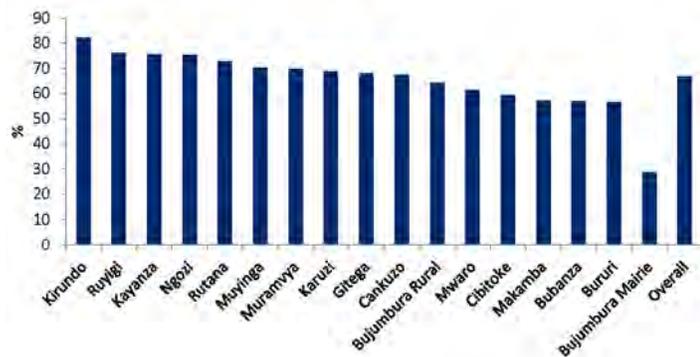
Figure 21. Food Consumption (%) by Gender of HH Head, 2013



Source: GoB, Rapport de la Mission Conjointe d'Evaluation des Récoltes, des Approvisionnements Alimentaires et de la Situation Nutritionnelle, Saison 2013A.

3.5. POVERTY RATES

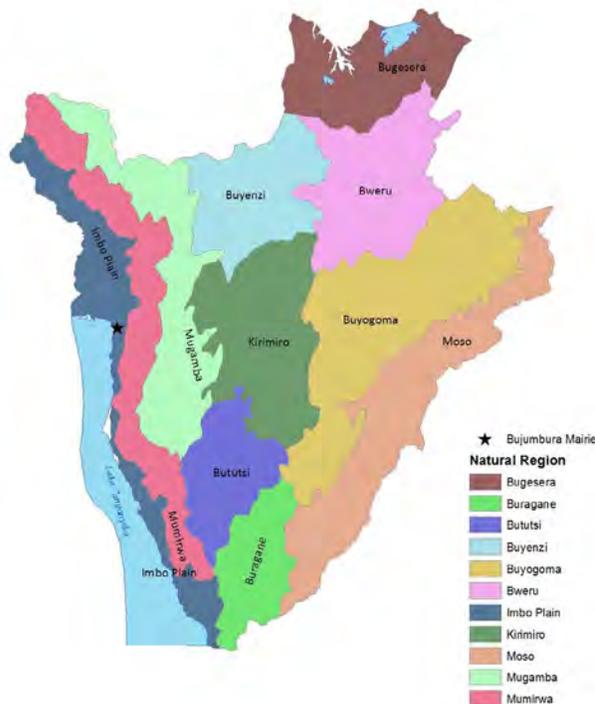
Figure 22. Poverty Rate (%) by Province, 2006



Source: IMF, Burundi: Poverty Reduction Strategy Paper—Annual Progress Report, March 2009.

3.6. NATURAL REGIONS

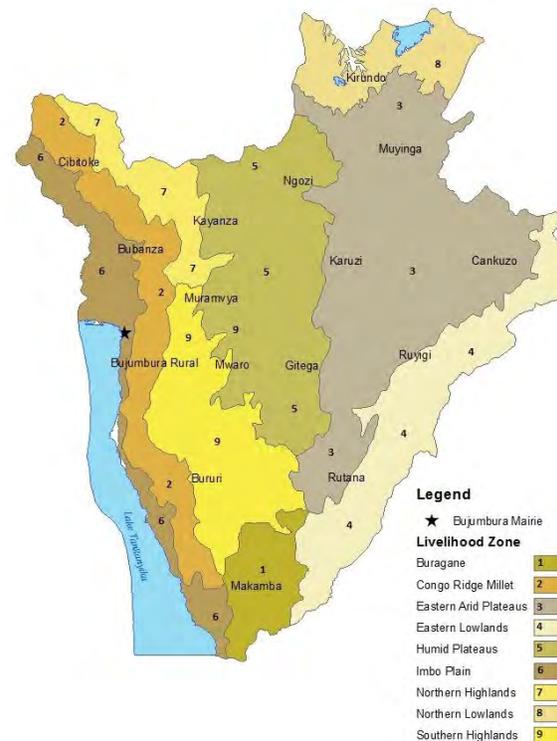
Figure 23. Burundi Natural Regions



Source: Created by USAID-BEST using information from Centre d'Information Environnemental, 2002, Cartes des Régions Naturelles et Provinces.

3.7. LIVELIHOOD ZONES

Figure 24. Burundi Natural Regions



Source: Created by USAID-BEST using information from Centre d'Information Environnemental, 2002, Cartes des Régions Naturelles et Provinces.

Table 10. Livelihood Zone Descriptions, by Food and Agricultural Economy, 2009

#	Livelihood Zone	Description of Food and Agricultural Economy
1	Buragane	Failing rains lead to food deficits and annual emergency humanitarian aid distributions. Bananas, cassava, and beans are the main crops produced. The majority of HHs has goats; richer HHs may have cattle or hogs. The main source of income for poorer HHs is local labor- agricultural (80 percent) and in-town (15 percent). Richer HHs rely on sales of crops and livestock and cross-border trade with Tanzania.
2	Congo Ridge Millet	This zone is prone to landslides and known for small stock production. Food aid is not common and is distributed to only the most vulnerable once per year. Crops are rain-fed. Food crops include: cassava, beans, sweet potatoes, and maize. Better-off HHs sell the following cash crops: coffee, bananas, and cassava; poorer HHs sell sweet potatoes. Better-off HHs produce the majority of their food while poorer HHs rely on markets.
3	Eastern Lowlands	High availability of productive land attracts many returnees. Cultivation is primarily rain-fed. Food crops include: cassava, sweet potatoes, beans, and bananas. Crop sales largely contribute to HH income, mainly cassava and beans. Richer HHs sell groundnuts and rice; poorer HHs sell sweet potatoes. Agricultural labor and livestock sales are secondary sources of income.
4	Northern Lowlands	The dense population results in small landholdings, but lands are fertile. The main food crops, also cash crops, are: cassava, bananas, sweet potatoes, and beans. Wealthier HHs have cattle; poorer HHs have goats and poultry. Agricultural labor is commonly outsourced to Rwanda.
5	Northern Highlands	The zone possesses trustworthy rainfall, forests, and a main road to Rwanda. Maize and beans are rain-fed and grown by all HHs. Wealthier HHs produce potatoes, tea, and vegetables; poorer HHs produce sweet potatoes and bananas. HHs rely heavily on markets for food as well as payment in food for labor. Small stock animals provide income for poorer HHs while cattle and hogs are reared by wealthier HHs.
6	Southern Highlands	The area is overall food sufficient as rains are reliable. All HHs produce maize; poorer HHs cultivate sweet potatoes; wealthier HHs produce sweet potatoes and bananas. Wealthier HH incomes are derived from crop, livestock, and timber sales; poorer HHs rely on labor wages.
7	Imbo Plain	Rain failures outweigh fertile soil, resulting in annual food deficits. Principal crops are: cassava, rice, beans, and tomatoes. Fishing, which complements diets, is a source of income for poorer HHs, while wealthier households rely on mining. Trade is facilitated by good transport infrastructure. Livestock production is widespread.
8	Humid Plateaus	Dense population results in small landholdings for HHs. The zone is the main coffee-producing region. The soil is good for brick, tile, and pottery making. Main food and cash crops are: bananas, maize, beans, and sweet potatoes. Most HHs raise livestock.
9	Eastern Arid Plateaus	The soils are infertile and all HHs rely on markets for food. Bananas and rice are cash crops. Poorer HHs earn income through labor and crop and poultry sales; wealthier HHs rely on crop sales and trade for income.

Source: FEWS NET, 2009, Livelihoods Zoning "Plus" Activity in Burundi.

Table 11. Characteristics of Livelihood Zones, 2009

Livelihood Zones	Provinces	Altitude (m.)	Main crops	Cash Crops	Rainfall (mm.)
Buragane	Makamba, Rutana	1,400 - 1,800	Banana, cassava, beans, sweet potato, peanut, maize, yam, sorghum	Coffee (marginal)	1,100 - 1,400
Congo Ridge Millet	Cibitoke, Bubanza, Bujumbura Rural, Bururi, Makamba	1,000 - 1,800	Banana, cassava, beans, sweet potato, sorghum, maize	Coffee	1,000 - 1,250
Eastern Lowlands	Cankuzo, Ruyigi, Rutana, Makamba	1,125 - 1,500	Banana, beans, cassava, sweet potato, peanut, maize, yam, sorghum	Cotton (marginal)	1,252
Northern Lowlands	Kirundo, Muyinga	1,200 - 1,600	Banana, cassava, beans, sweet potato, peanut, maize, yam, sorghum	Coffee (marginal)	700 - 1,200
Highland	Cibitoke, Bubanza, Kayanza, Muramvia, Bujumbura Rural, Mwaro, Bururi, Makamba	1,800 - 2,600	Banana, peas, beans, sweet potato, wheat, maize	Coffee, Tea	1,200 - 2,000
Imbo Plain	Cibitoke, Bubanza, Bujumbura Rural, Bujumbura Mairie, Bururi, Makamba	780 - 1,000	Banana, cassava, beans, sweet potato, sorghum, peanuts, rice, maize	Cotton, Palm oil	>900
Humid Plateaus	Kayanza, Ngozi, Muramvia, Mwaro, Gitega, Karusi	1,400 - 1,800	Banana, cassava, beans, sweet potato, peanut, maize, taro, green pea	Coffee	1,200 - 1,400
Eastern and Central Arid Plateaus	Muyinga, Cankuzo, Karusi, Ruyigi, Rutana, Ngozi	1,200 - 1,800	Banana, cassava, beans, sweet potato, peanut, maize, yam, sorghum	Coffee (marginal)	1,100 - 1,400

Source: WFP, November 2012, *Analyse des données secondaires de la sécurité alimentaire, vulnérabilité et nutrition au Burundi*.

Table 12. Food Security Shocks by Livelihood Zone, 2010

Livelihood Zone	Rain failure	Crop disease	Erosion	Floods	Livestock diseases	Landslides	Hail	Coffee price volatility	High winds
Buragane	X	X	X	X	X				
Congo Ridge Millet	X				X	X	X		
Eastern Lowlands	X	X		X					
Northern Lowlands	X	X							
Northern Highlands	X					X		X	
Southern Highlands	X					X		X	
Imbo Plain	X	X		X	X		X		X
Humid Plateaus	X	X	X		X				
Eastern Arid Plateaus	X	X	X		X	X			

Source: FEWS NET, 2010, Livelihood Mapping and Zoning Exercise: Burundi.

ANNEX 4

FOOD SECURITY

4.1. SUMMARY OF RECENT FOOD SECURITY ASSESSMENTS

This annex provides a food security overview of Burundi based on a review of recent assessments and the 2010 Demographic and Health Survey. The findings noted in the following sections belong to the assessments' authors and do not reflect USAID-BEST findings or recommendations.

4.1.1 FAO Burundi – Overview of the Situation of Acute Food Insecurity 2013A⁴

Findings: Food security and nutrition. Over half (54 percent) of the Humid Plateau households (HHs) are consuming at marginal to poor levels. The Eastern Lowlands reported 17 percent of HHs with marginal to poor consumption levels and higher bean reserves than the national average. About 66 percent of families struggled to feed themselves after March 2013. Agricultural production remains low due to limited access to inputs. In the Humid Plateaus, 35 percent of HHs own less than 0.2 hectares of land, resulting in the lowest annual per capita production of food crop in the country (438 kilograms (kg)). Shocks continue to affect households in the Eastern Lowlands, which is an area that already has a chronic malnutrition rate of 54.7 percent. Admissions to nutrition clinics are comparable to prior seasons.⁵

Findings: Main challenges to food security. Despite good rainfall and agricultural production in 2013, structural issues continue to plague community development. Setbacks include: high agricultural dependence, high population density, limited access to land and quality inputs, and high food prices. The Eastern Highlands rely on rice, cassava, and bananas for their main sources of income and food; relative to last year, this area has experienced reduced agricultural production due to drought effects upon the sensitive sandy soil of the region. The Northern and Southern Highlands suffer most from soil infertility, land erosion, and dense populations.⁶

Under these conditions, the risk of malnutrition increases, and especially so for vulnerable HHs. Additionally, refugees returning from Tanzania are settling in different areas and placing pressure on accessible land and clean water.⁷

4 FAO, June 2013, *Burundi - Overview of the Situation of Acute Food Insecurity 2013A*.

5 Ibid.

6 Ibid.

7 Ibid.

4.1.2 Burundi Food Security Monitoring System, May 2013⁸

Table 13. Main Foods Consumed, by Area

Sector	Projections	Geographic Variations
Crop production	Normal after a bumper harvest in Season B.	Northwestern Burundi: decline in crop production due to heavy rainfall and localized crop disease
Pasture and livestock	Improved national food stocks and consumption needs will likely be met.	Imbo region: reduced HH income from milk production and other livestock production.
Food prices	Projected to decline during the dry season due to low rainfall level (20-50 percent below average).	Bujumbura: bean prices declined by 3 percent in Bujumbura
Labor market	Expected to remain stable or even decline compared to previous months as a result of the bumper harvest during Season B.	Ngozi: bean prices stable due to improved market supply.
	HHs expected to hire field laborers for Burundian Franc (BIF) 1,000-1,500 per day for land preparation and planting activities	Areas which have Season C.

Source: Created by USAID-BEST.

8 WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

4.1.3 FEWS NET Burundi Price Bulletin, June 2013⁹

Table 14. Main Findings

Crop	Market	Findings
Bean	All urban markets	Price is higher than 2012 and the last five-year (2007-12) average price. Price level increased during September-December 2012, declined in January 2013, gained pace from February-April 2013, and dropped again in May 2013.
	Kirundo	Relatively higher retail price (BIF 900 per kg in April 2013) compared to price rate of previous year (BIF 750 per kg in April 2012).
	Bujumbura	Price remained at BIF 1,050 per kg throughout 2012-13.
Sweet potatoes	All urban markets	Price is higher than 2012 and the last five-year (2007-12) average price. Prices varied greatly among the urban cities.
	Gitega, Ruyigi, and Kirundo	Price remained at a steady average of BIF 200-300 per kg throughout 2012-13.
Cassava flour	All urban markets	Price is higher than 2012 and the last five-year (2007-12) average price. Price of cassava flour ranged from BIF 600-700 per kg throughout 2012-13.
	Bujumbura	Price of cassava flour was as high as BIF 1,030 per kg in May 2013. Price level was similar for both 2012 and 2013.
	Muyinga	Price level was lower in May 2013 compared to 2012.
Maize	Bujumbura	Current price range was significantly higher (BIF 950 per kg) in May 2013 than 2012 (BIF 700 per kg).
	Muyinga, Ruyigi, and Gitega	Maize prices in 2012-13 increased between September-November (BIF 600-900 per kg), and remained steady until January before declining in February to BIF 500 per kg.

Source: FEWS NET, June 2013.

4.1.4 Burundi Food Security Monitoring System, May 2013¹⁰

Objective. The study focuses on the food security situation of Burundi in terms of consumption and nutritional status. It highlights the economic activities of the country in food commodity markets, taking into account food production and prices.¹¹

Findings: Food production. Total production of Season A (September-February) is 621,517 metric tons (MT) in 2013 and consists of the following: tubers (44 percent), bananas (17 percent), cereals (15 percent), legumes (13 percent), and oilseeds (12 percent). Despite increased production in Season A, there remains a significant national food deficit of 376,285 MT because of low productivity that is a result of unfavorable climatic condition and poor access to agricultural inputs and extension services. In 2013 cropping Season A, only 31.4 percent of agricultural households used chemical fertilizers, of which 6.9 percent used pesticides. Moreover, a mere 9.1 percent of HHs received any kind of agricultural extension service. For 2012, the food production deficit was estimated at more than 30 percent; commercial food imports must then meet the rest of demand.¹²

Findings: Food prices. Despite the overall high price level of food commodities, a slight decline in price for basic staples occurred in April 2013; cassava prices decreased by 19 percent, potato by 22 percent, and rice by 23 percent. Lower prices of cassava can be attributable to moderate rainfall and hence

increased production level. Beans and maize prices, however, have experienced a slight increase of 5 percent.¹³

Findings: Economic condition. The Burundian Franc experienced a major devaluation of over 25 percent between 2012-13; the devaluation had a negative impact on the trade balance (imports totaled US\$720 million while exports were only US\$120 million). A depreciating currency coupled with low productivity and increasing food prices drastically reduced HH purchasing power and further increased food insecurity.¹⁴

Findings: HH consumption and expenditure. The analysis shows that at the national level HH food security has increased as poor consumption declined from 49 to 46 percent from April 2012-April 2013. The Eastern Lowlands livelihood zone was successful in reducing the proportion of food insecure HHs by 12 percent. The Humid Plateaus and *Northern Lowlands*, however, had an increase from 46 to 50 percent in the proportion of food insecure HHs between 2012 and 2013. The *Northern Lowlands* are in an especially critical situation with 14 percent of HHs at poor consumption levels and 49 percent at marginal levels.¹⁵

For an agricultural HH, the meals mainly consist of starch. Oil, green vegetables, and legumes are also often consumed but meats, fish, milk, and sugar are rare in diets. Beans are widely consumed as an animal protein substitute. Consumption level also varies with the gender of the HH head. Women-led HHs consume less oil, meat, and legumes because they are often single-parent HHs and therefore more susceptible to food

⁹ FEWS NET, June 2013, *Burundi Price Bulletin*.

¹⁰ WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

insecurity.¹⁶

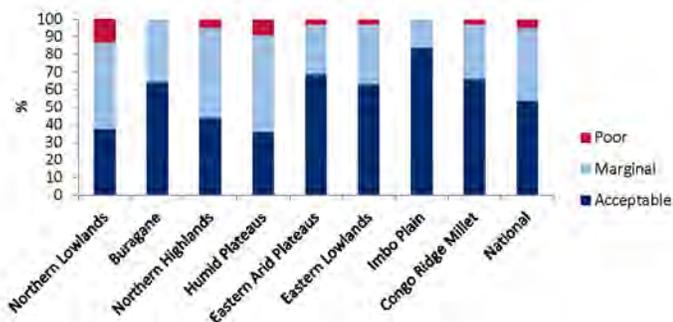
Agricultural HHs are also vulnerable in terms of expenditure. Food expenditure consists of 78 percent of the total HH budget, leaving HHs vulnerable to price inflation and other market variables. Financial management at the HH level often falls to men (54 percent), however, a higher proportion of women manage HH budgets in the Highlands (46 percent) and Imbo Plain (50 percent) regions.¹⁷

Findings: Health and nutrition. Stunting is a critical issue in more than half the provinces of Burundi, with rate of stunting higher than 50 percent. A 2012 UNICEF survey showed an increase in the level of stunting in Cankuzo from 50.1 to 68.5 percent and in Makamba from 49.7 to 51.1 percent; the number declined in Ruyigi from 68.5 to 59.8 percent and in Rutana from 61.7 to 58.1 percent (however, the malnutrition level has not improved with Rutana remaining at 8.3 percent).

In terms of child care, 50 percent of HHs with children under five years of age (U5s) are run by single mothers while 40 percent of these HHs with U5s have two parents.¹⁸

Respiratory infections and diseases related to poor drinking water and sanitation lead to major health problems. The highest proportion of deaths is due to pneumonia (19.3 percent) and diarrhea (15.2 percent). Twenty-three percent of HHs use non-potable water and a mere 12 percent of HHs surveyed have an improved latrine.¹⁹

Figure 25. Food Consumption Level (% of HHs) by Livelihood Zone, 2013



Source: WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

4.1.5 GIEWS Country Brief Burundi, March 2013²⁰

Objective. The country brief provides an update on the food production, prices, and food security situation of Burundi for

¹⁶ WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

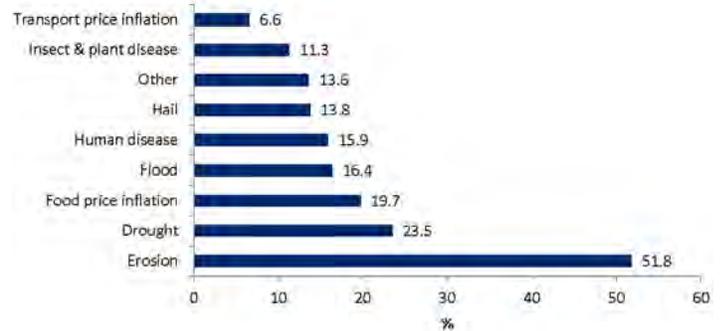
¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ FAO, March 2013, *GIEWS Country Brief Burundi*.

Figure 26. Principal Shocks Suffered by HHs (%), December 2012-May 2013



Source: WFP, May 2013, *Système de Suivi de la Sécurité Alimentaire - FSMS*.

Season A 2013 (September-February) and Season B 2013 (February-June) cropping season.²¹

Findings: Crop production. Maize, beans, sorghum, rice, and potatoes are mainly planted during Season B and they account for 35 percent of total crop production. Rainfall for the season has been adequate and average to above average production level is expected.

Heavy rainfall in Season A in 2012-13 has especially affected bean crops in the southeastern and northwestern regions of the country. Prevalence of crop diseases has also significantly reduced the yields of staple crops, such as bananas and cassava.²²

Findings: Food prices. With Season A crops reaching retail markets, the overall price of staple foods has slightly decreased by 2-3 percent. However, maize prices remained 40 percent higher and bean prices 26 percent higher. The price of rice maintained a steady trend through the year at BIF 1,850 per kg.²³

4.1.6 Secondary Data Analysis of Food Security, Vulnerability, and Nutrition in Burundi, November 2012²⁴

Objective. The report is an update of the Comprehensive Food Security & Vulnerability Analysis conducted in 2008. It focuses on the causes of the food security, vulnerability, and malnutrition situation in Burundi. Recommendations are made in terms of geographical area and types of effective intervention.²⁵

Findings: Food production. In 2011, production increased by 1.9 percent from the previous year to 1.23 million MT in grain equivalent. Lack of improved agricultural inputs and extension services, soil degradation, climatic hazards, and widespread poverty hamper food production.²⁶

Milk production in Burundi is estimated at 37,600 MT per year with a major portion coming from Ngozi Province. The 2012

²¹ Ibid.

²² Ibid.

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid.

livestock census states that 31.5 percent of HHs do not own any ruminant animals. Fish production has improved in the last few years because of better management by fishermen. In 2010, fish production was 17,491 MT, an 18 percent increase from 2009. Ninety-nine percent of fish comes from Lake Tanganyika.²⁷

Findings: Food import and aid. In 2010, food imports of Burundi were 12,600 MT, with a value of BIF 8.8 billion. The primary import commodities are: maize, beans, cassava flour, sorghum, rice, and potatoes; they are sourced from Kenya, Tanzania, Uganda, and Rwanda. Political tension at the border limits trade with the Democratic Republic of Congo (DRC).²⁸

Food aid plays an important role in the import market. In 2005, food aid imports were around 75,000 MT. Between 2004-06, WFP distributed approximately 70,000 MT of food per year, which declined to 20,000 MT in 2011. Cereals and legumes are the major agricultural products imported as food aid for distribution. WFP procures most of its food aid from Uganda and other neighboring countries.²⁹

Findings: Markets and prices. The major markets in the country are Bujumbura Mairie, Gitega, Ngozi, Makamba, and Rumonge. Access to markets is limited and only 22 percent of HHs are located less than 30 minutes away on foot to the nearest market.³⁰

Food prices have increased steadily for the past five years. Rice prices have increased three fold and the price of sweet potatoes has doubled. Between 2010-12, bean prices increased by 32.9 percent, cassava prices by 8.3 percent, maize prices by 70.8 percent, rice prices by 88.3 percent, and wheat prices by 52.7 percent. A regional food crisis, rising oil prices, the depreciation of Burundi Francs, low levels of HH food stocks, production loss due to weather, and a growing population further exacerbate these spikes in prices.³¹

Findings: Food consumption. A June 2012 food security monitoring survey found that 60 percent of the population in Buyenzi in Bujumbura Rural Province consumed only one meal per day, and 30 percent of the population in Mugamba in Bururi Province consumed at least three meals per day. In 2006, 37 percent of HHs consumed more than 2,100 calories per day per person and 34 percent of HHs consume less than 1,400 calories per person per day.³²

Food expenditure is high, and particularly so in the *Congo Ridge Millet livelihood zone* (70 percent) and in the Buragane region (50 percent). Expenditures on staple foods vary among HHs with differing income level. HHs at high-income levels spend less on staple food items (40 percent) compared to low-income HHs

(60 percent). Most poor HHs are unable to spend money on food commodities such as sugar, milk, and fruits.³³

Findings: Health. In 2010, 57.7 percent of U5s had stunted growth due to chronic malnutrition. The northern and central region of Burundi (Cankuzo, Gitega, Kirundo, Ngozi, and Ruyigi provinces) have a high prevalence of chronic malnutrition at around 60 percent, which is well above the 40 percent threshold for “very high severity.” Countrywide, the prevalence of stunting is lower in girls (53 percent) than boys (62 percent), and a higher number of children in rural areas (28 percent) suffer from severe chronic malnutrition compared to urban areas (16 percent). Prevalence of moderate and severe chronic malnutrition is around three times higher among children with mothers lacking education. The GoB is prioritizing food fortification to address micronutrient deficiencies in children and women of child-bearing age.³⁴

Findings: Health. Infant mortality has declined in the last decade from 110 deaths per 1,000 live births in 1990 to 88 deaths per 1,000 live births in 2010. Despite the decline, child mortality rates are still relatively high on global standards due to the socioeconomic crisis in the region and the high rate of chronic disease and infection affecting U5s.³⁵

Pneumonia is one of the main causes of death among U5s (19.3 percent), followed by diarrhea (15.2 percent). However, immunization initiatives, such as the one in 2002 that has eliminated death from measles, can improve the health environment.³⁶

Infectious water borne diseases are still common though due to the lack of safe drinking water sources and proper infrastructure. Slightly more than half (50.7 percent) of the population uses unprotected water sources and 95 percent of HHs do not treat water before drinking. Sanitation practice among HHs is also very poor with 65 percent of the population using open hole/pit latrines and 24 percent using covered latrines.³⁷

Findings: Food security. Around 90 percent of the population engages in subsistence farming. However, its contribution to the gross domestic product (GDP) of the economy was only 34.1 percent, adding 0.7 percent to economic growth in 2010. The average income of agricultural HHs is half the national average, but 34 percent of the population (442,500 HHs) who remain food insecure are involved in livelihoods that depend heavily on agriculture.³⁸

In July 2012, approximately 385,648 people were deemed food insecure. Prevalence of poverty is higher in the provinces in the North and Central (Kayanza, Kirundo, and Ngozi) and *Eastern*

27 Ibid.

28 WFP, November 2012, *Analyse des données secondaires de la sécurité alimentaire, vulnérabilité et nutrition au Burundi*.

29 Ibid

30 Ibid.

31 Ibid.

32 Ibid.

33 Ibid.

34 Ibid.

35 Ibid.

36 Ibid.

37 Ibid.

38 Ibid.

Arid Lowlands (Cankuzo, Karuzi, Muyinga, Rutana, and Ruyigi).³⁹

Key factors adversely affecting food supply in the 2012 Season B are: water deficit (22 percent), heavy rain and flooding (21 percent), inflation (13 percent), and plant diseases (11 percent). The following are some of the main coping strategies for food insecurity among Burundian HHs:

- Reduction in food consumption;
- Migration and sale of labor (including dropping out of school for children);
- Sale of crop and livestock; and
- Sale of household goods (kitchen equipment, tools, seeds, clothes, and wood fuel).⁴⁰

4.1.7 Demographic and Health Survey, 2010⁴¹

Objective and methodology. The study provides detailed information on demographic and health indicators in Burundi and covers fertility, family planning, maternal and infant health, nutritional status of women and children, and the prevalence of malaria and HIV/AIDS. The survey sample included 9,389 women aged 15-49 years and 4,280 men aged 15-59.⁴²

Findings: Economy. Burundi is one of the poorest countries in the world with the majority of its population (90 percent) engaged in the agriculture sector. GDP contribution of agriculture is 43 percent with the manufacturing sector and service sector contributing 16 percent and 35 percent, respectively. Coffee, tea, and cotton provide the majority of foreign exchange for the country, but this quantity and value fluctuates depending on climate and international prices.⁴³

Poverty remains one of the major economic challenges; in 2006, 67 percent of the population lived below the national poverty line. In 2008, GDP per capita was estimated at US\$199.⁴⁴

Findings: Water and sanitation. Nationally 75 percent of HHs drink water from an improved source, of which 44 percent are from protected sources, and 23 percent from public taps or standpipes. The proportion of HHs that consume clean water is higher in urban (85 percent) than rural (74 percent) areas. Only five percent of HHs have water on site, but 48 percent of the time it usually takes 30 minutes or more to get drinking water. The rural-urban divide is stark in accessibility of clean water as a mere one percent of the rural population have tap inside or outside their home in the yard compared to 43 percent of urban HHs.⁴⁵

39 Ibid.

40 Ibid.

41 ISTEERU, May 2012, *Enquête Démographique et de Santé 2010*.

42 Ibid.

43 Ibid.

44 Ibid.

45 Ibid.

Alongside improved water supply, adequate sanitation and hygiene practices are crucial development indicators. Sixty percent of Burundian HHs use unimproved toilets; 56 percent use latrines which are without a slab or in an open pit. The quality of latrines in rural areas is poorer (64 percent) than in the urban areas (27 percent).⁴⁶

Findings: Nutrition. Since 2009, Burundi has implemented an Integrated National Program for Food and Nutrition that aims to develop a national food and nutrition policy, ensure food quality, and coordinate implementation of food and nutrition interventions.

In Burundi, about six out of 10 U5s lag behind in growth. Thirty-one percent of children are at moderate stunting levels and 27 percent are severely stunted. This high prevalence of stunting poses a serious public health problem.⁴⁷

The nutritional status of children depends on the health of their mothers. Sixty-three percent of the children whose mothers are lean lag behind in growth compared to children with mothers of normal nutritional status. The prevalence of stunting in Burundi is lower in girls (53 percent) than in boys (62 percent) and is higher in rural areas (60 percent) than in urban areas (38 percent).⁴⁸ Chronic malnutrition also varies depending on socioeconomic levels. The proportion of stunted children is as high as 70 percent in poorest-quintile HHs and as low as 41 percent in richest-quintile HHs. The result by region also shows a significant difference between Bujumbura Mairie and other regions. Only 28 percent of the children in Bujumbura suffer from chronic malnutrition compared to 62 percent of the children in the North and Central East regions, 55 percent in the West, and 56 percent in the South.⁴⁹

Overall, six percent of children are acutely malnourished and one percent is severely malnourished. Twenty-nine percent of children in Burundi are underweight. The proportion of underweight girls is lower (26 percent) compared to boys (32 percent). In rural areas, the prevalence of underweight for U5s is 30 percent whereas in the urban areas it is 18 percent.⁵⁰

Findings: Employment. The majority of women engaged in work are in the agricultural sector (89 percent) with a higher proportion in the rural region (94 percent). In contrast, among the male working population, 63 percent are engaged in agricultural activities and the rest are mainly involved in the sales and service sector requiring skilled labor.⁵¹

46 Ibid.

47 Ibid.

48 Ibid.

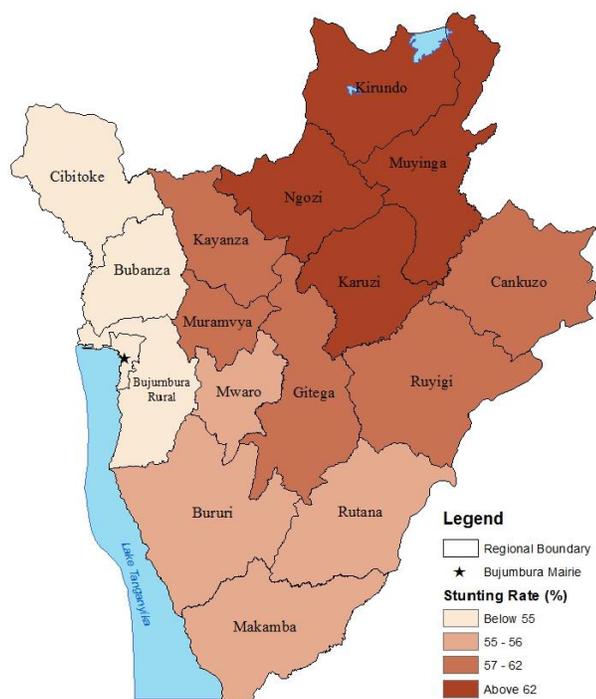
49 Ibid.

50 Ibid.

51 Ibid.

4.2. MALNUTRITION RATES

Figure 27. Stunting Rates among Children Ages 0-59 Months,



Source: Created by USAID-BEST, using data from WFP, *Analyse des données secondaires de la sécurité alimentaire, vulnérabilité et nutrition au Burundi*, November 2012.

Table 15. Nutritional Status of Children Ages 0-59 Months (%) by Area, 2010

	Stunted		Wasting		Underweight	
	Severe	Moderate	Severe	Moderate	Severe	Moderate
Burundi	27.1	57.7	7.8	28.8	1.4	5.8
Urban	16.2	37.8	5.8	18.0	1.6	4.8
Rural	28.0	59.5	7.9	29.7	1.3	5.9
North	29.3	62.1	8.4	32.1	0.6	5.5
Center-East	27.9	61.5	8.7	33.1	1.1	5.4
West	28.7	55.1	6.7	25.1	2.4	6.2
South	25.5	56.0	7.3	25.0	1.5	6.4

Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

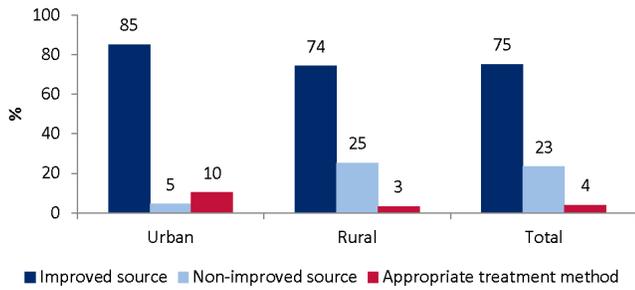
Table 16. Nutritional Status of Women Ages 15-49 Years (%) by Area, 2010

	Height	Body Mass Index (BMI)						
		Average BMI	18.5-24.9 (normal)	<18.5 (lean)	17.0-18.4 (light thinness)	<17 (moderate to severe thinness)	>25 (overweight to obese)	
Burundi	Under 145 cm	5.0	21.1	76.4	16.0	11.4	4.7	7.5
Urban	Under 145 cm	2.7	23.1	62.8	9.9	6.1	3.8	27.3
Rural	Under 145 cm	5.3	20.8	78.1	16.8	12.0	4.8	5.2
North	Under 145 cm	5.3	20.8	78.1	17.2	12.8	4.4	4.7
Center-East	Under 145 cm	5.0	20.7	77.0	17.9	13.0	4.9	5.2
West	Under 145 cm	7.5	20.9	77.8	15.8	9.4	6.4	6.4
South	Under 145 cm	3.8	21.2	78.0	14.8	10.9	4.0	7.2

Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

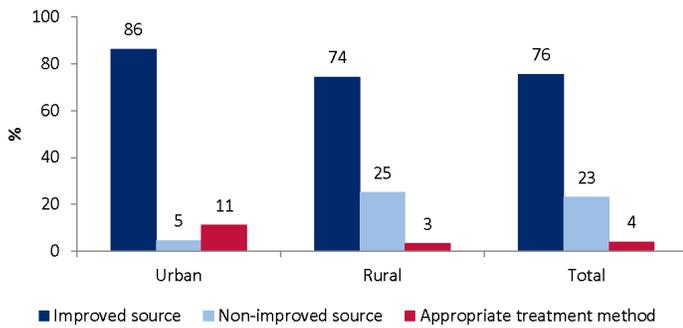
4.3. WATER, SANITATION, AND HYGIENE ACCESS

Figure 28. Drinking Water Source and Treatment by Strata (% of HHs), 2010



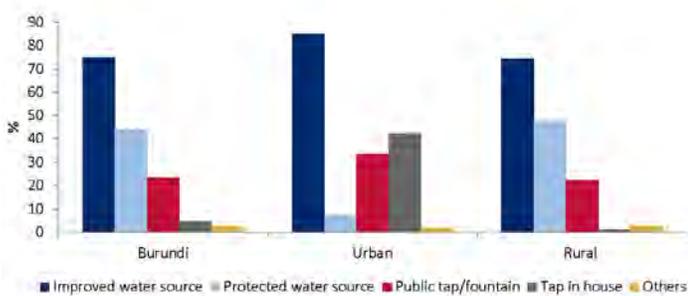
Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

Figure 29. Drinking Water Source and Treatment by Strata (% of Population), 2010



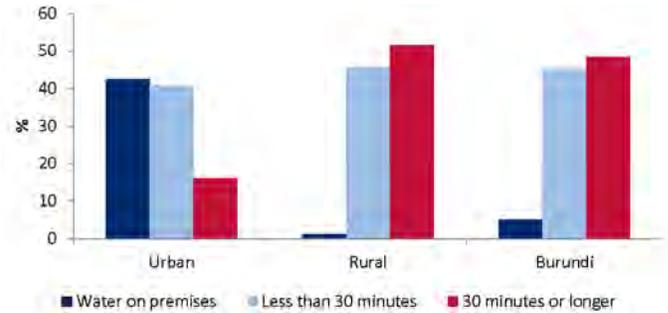
Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

Figure 30. HHs (%) with Access to Safe Water and Main Source of Drinking Water by Area, 2010



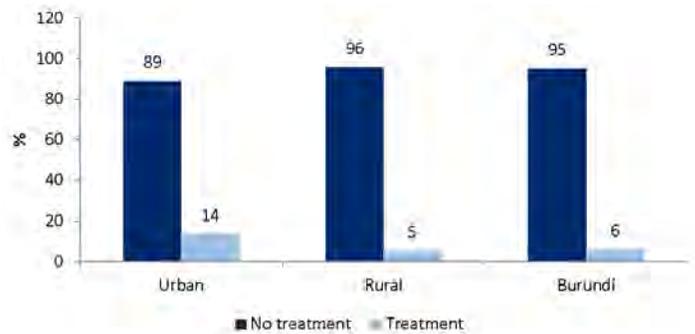
Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

Figure 31. Time to Obtain Drinking Water by Strata (%), 2010



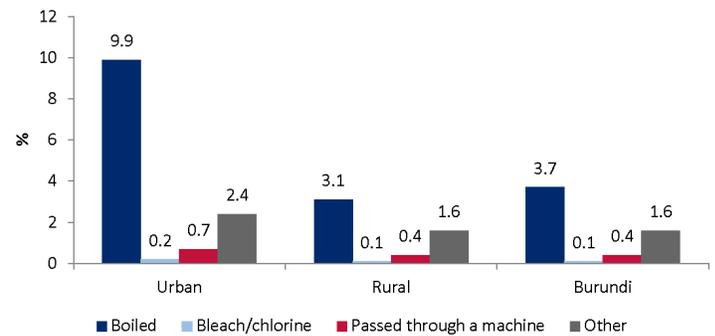
Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

Figure 32. Water Treatment by Strata (%), 2010



Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

Figure 33. Water Treatment Methods by Strata (%), 2010



Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

Table 17. Household Sanitation Facilities by Area (% of HHs), 2010

	Type of toilet/ latrine facility	Urban	Rural	Burundi
Improved, not shared facility	Flush/manual flush to sewer system	3.1	1.0	1.3
	Flush/manual flush to a septic tank	14.9	0.1	1.4
	Flush/manual flush to a cesspit	0.0	0.0	0.0
	Ventilated pit latrines	0.2	0.4	0.4
	Pit latrine with slab	12.3	31.0	29.3
Shared facility*	Flush/manual flush to sewer system	4.5	0.0	0.4
	Flush/manual flush to a septic tank	2.9	0.0	0.3
	Flush/manual flush to a cesspit	0.7	0.0	0.1
	Ventilated pit latrines	0.7	0.1	0.1
	Pit latrine with slab	33.9	4.5	7.1
Non- improved facility	Flush/manual flush unrelated to sewer/septic/cesspit	0.1	0.0	0.0
	Pit latrine without slab/open pit	24.7	59.0	55.9
	No toilet/nature	1.9	4.2	4.0
	Other	0.0	0.2	0.2

Source: GoB, May 2012, *Enquête Démographique et de Santé 2010*.

*Facilities that would be considered improved if not shared by two or more households.

ANNEX 5 DETAILED CALCULATION OF IMPORT PARITY PRICE (IPP)

Table 18. Import Parity Price Calculation (US\$ per MT), January 2008-September 2013

1	2	3	4	5	6	7	8	9	10	11	12
Date	US HRW Wheat, FOB US Gulf	Ocean Freight	Insurance	CIF Dar es Salaam	Stevedoring	Est. IPP	IPP Mov. Avg	IPP MA +10%	IPP MA - 10%	Sale Price	% of IPP
Jan-08	377	92	4	473	5	478	520	572	468		
Feb-08	439	92	4	535	5	540	525	577	472		
Mar-08	482	107	5	594	5	599	520	571	468		
Apr-08	389	107	4	500	5	505	522	574	470		
May-08	350	118	4	472	5	477	508	558	457		
Jun-08	358	125	4	486	5	491	479	527	431		
Jul-08	343	117	3	463	5	468	463	510	417		
Aug-08	341	105	3	450	5	455	437	480	393		
Sep-08	312	107	3	422	5	427	401	441	361	425	100%
Oct-08	260	76	3	339	5	344	366	402	329		
Nov-08	247	55	2	305	5	310	337	371	304		
Dec-08	235	51	2	289	5	294	311	342	280		
Jan-09	256	49	3	308	5	313	305	335	274		
Feb-09	241	46	2	289	5	294	304	334	274		
Mar-09	246	59	2	307	5	312	311	342	280		
Apr-09	242	58	2	302	5	307	316	348	284		
May-09	261	62	3	325	5	330	318	349	286		
Jun-09	270	60	3	332	5	337	311	343	280	270	80%
Jul-09	233	61	2	297	5	302	303	334	273		
Aug-09	218	57	2	277	5	282	293	322	264	270	96%
Sep-09	201	59	2	261	5	266	286	314	257		
Oct-09	209	62	2	272	5	277	284	312	255		
Nov-09	228	66	2	296	5	301	284	313	256		
Dec-09	222	63	2	287	5	292	285	314	257		
Jan-10	215	64	2	280	5	285	286	314	257		
Feb-10	207	57	2	266	5	271	280	308	252		
Mar-10	206	66	2	273	5	278	275	302	247		
Apr-10	200	65	2	267	5	272	268	295	241	265	97%
May-10	196	65	2	262	5	267	266	293	240		
Jun-10	183	62	2	246	5	251	276	304	249		
Jul-10	205	51	2	258	5	263	295	324	265		
Aug-10	268	52	3	322	5	327	311	342	280		
Sep-10	304	53	3	360	5	365	331	364	298		
Oct-10	290	51	3	344	5	349	353	389	318		
Nov-10	292	50	3	344	5	349	367	404	330		

1	2	3	4	5	6	7	8	9	10	11	12
Date	US HRW Wheat, FOB US Gulf	Ocean Freight	Insurance	CIF Dar es Salaam	Stevedoring	Est. IPP	IPP Mov. Avg	IPP MA +10%	IPP MA -10%	Sale Price	% of IPP
Dec-10	320	48	3	371	5	376	378	415	340	350	93%
Jan-11	340	48	3	391	5	396	386	424	347		
Feb-11	362	47	4	413	5	418	398	438	359		
Mar-11	332	48	3	384	5	389	407	447	366	390	100%
Apr-11	359	46	4	409	5	414	408	449	367		
May-11	362	47	4	412	5	417	397	437	358		
Jun-11	347	48	3	398	5	403	397	437	357		
Jul-11	308	48	3	359	5	364	393	432	353		
Aug-11	331	48	3	382	5	387	381	419	343		
Sep-11	335	48	3	386	5	391	372	409	334		
Oct-11	302	48	3	353	5	358	368	405	331		
Nov-11	302	48	3	353	5	358	361	397	325		
Dec-11	289	48	3	340	5	345	352	388	317	337	98%
Jan-12	297	47	3	346	5	351	351	386	316		
Feb-12	297	45	3	345	5	350	346	380	311		
Mar-12	296	45	3	344	5	349	342	377	308		
Apr-12	280	45	3	327	5	332	341	375	307		
May-12	276	45	3	324	5	329	353	388	318		
Jun-12	288	50	3	341	5	346	367	404	331		
Jul-12	350	50	3	403	5	408	387	426	348		
Aug-12	362	50	4	416	5	421	407	448	367		
Sep-12	372	50	4	425	5	430	425	467	382		
Oct-12	372	50	4	426	5	431	427	469	384		
Nov-12	374	50	4	428	5	433	424	466	381		
Dec-12	360	50	4	413	5	418	417	459	375	423	101%
Jan-13	348	51	3	401	5	406	407	448	366		
Feb-13	337	51	3	391	5	396	396	436	356		
Mar-13	322	51	3	376	5	381	390	430	351		
Apr-13	319	51	3	373	5	378	385	424	347		
May-13	331	51	3	386	5	391	380	418	342		
Jun-13	321	50	3	374	5	379	378	416	340		
Jul-13	310	51	3	364	5	369	377	414	339		
Aug-13	315	51	3	369	5	374	377	415	340		
Sep-13	312	53	3	368	5	373	377	415	339		

Average sales price versus IPP: 96 percent.

Sources:

2: US No. 2 Hard Red Winter wheat (Ordinary Protein), FOB US Gulf: FAO international commodity prices (<http://www.fao.org/economic/est/prices>)

3: Ocean Freight: Freight rate prices for PNW - East Africa. USWheat.

4: Insurance: 1 percent of FOB Price (1)

5: CIF Dar es Salaam: sum of Items 2 - 4

6: Stevedoring: per personal communication with key stakeholder in milling industry, August 2013.

7: Est. IPP: Sum of 5 and 6.

8: IPP Moving Average: Average of Estimated IPP (7) for given month plus two months before and two months after.

9: IPP MA + 10%: IPP MA (8) + 10 percent of own value.

10: IPP MA - 10%: IPP MA (8) minus 10 percent of own value.

11: Sale Price: Per awardee.

12: % of IPP - Sales Price (11) divided by IPP (7).

ANNEX 6 CONTACTS

Last Name	First Name	Organization	Title
Al-Amoudy	Amar	Pembe	Acting Managing Director
Barankitse	Marguerite	Maison Shalom Burundi	Founder, President
Bashir	Munir	MINOLACS	General Director
Bayihishako	Eng. Pierre	Ministry of Transport, Public Works, & Equipment	Director of Road Planning
Bigirimana	Joseph	International Rice Research Institute	Regional Coordinator for East and Southern Africa & Plant Pathologist
Biranyuranwa	Bernard	Farisana	President, Director General
Bitoga	Jean-Paul	International Fund for Agricultural Development	PRODEFI Program Coordinator
Bwakira	Emmanuel	International Fund for Agricultural Development	PIVA B Project Regional Coordinator, Gitega
Chanoine	Olivier	Belgian Development Agency (BTC)	Road Paving Program Representative
Collet	Jean-Marie	European Union Post Conflict Rehabilitation and Development	Chief of Party
Dagne	Newhame	Bakhresa Grain Milling Burundi	General Manager
Dereb	Melkamu	Catholic Relief Services	Commodities & Monetization Manager
Fabien	Yamuremye	Reintegration and Repatriation Support Project	Director
Fergaq	Hermann	Le Café Gourmand	Managing Director
Gaspard	Bavuga	Ministry of Finance, Post Conflict Program for Rural Development	Extension Agent, Ruyigi
Gisage	Manfred	Gima-Shop	Managing Director
Hakizimana	Anselme	[None - Self Employed]	Transport Operator
Hashimwe	Athanase	Bollore Africa Logistics	Operations Manager/Sea Freight
Hussein	Jumaine	Rural Agriculture & Development	Consultant
Jacqueet	Nicole	World Food Programme	Deputy Country Director
Kabona	Alexis	Pathfinder	Assistant Nutritionist
Kanyaru	Roger	Ministry of Agriculture and Animal Industry	Advisor to the Director General
Kaptchouang	Herve	International Medical Corporation	Medical doctor, Preventing Malnutrition in Children Under 2 Approach, Ruyigi
Kara	Gaspard	United Nation Children's Fund	[Title Unknown]
Katanga	Jonas	Customs Agency	Director
Khalfani	Abdallah	Burundi Coffee Hulling (BUDECA)	Production & Maintenance Manager
Konstantinos	Manolios	Batralac	Director/Shareholder
Kwizera	Eliane	Global Port Services Burundi	Operations Manager

Last Name	First Name	Organization	Title
Liberi	Dawn	Embassy of the United States	Ambassador
Makarakiza	Euphrodite	Arnolac Cargo Shipping	General Manager
Maniraho	Joséphine	Bakery, Muramvya	Baker
Markides	Charles	Kapa Bakery	Managing Director
Masabarakiza	Alexis	General Trading and Transport	Director, Transportation Services
Masuguru	Apollinaire	Food and Agricultural Organization	Assistant to Program Representative
Melesse	Yoseph	Bakhresa Grain Milling Burundi	Deputy General Manager
Minani	Thomas	Burundi Brewery, Ngozi	Administrator, Deputy Director General
Mpoziriniga	Audace	USAID/Burundi	Food Aid Specialist
Mukankusi	Thérèse	[None - Self Employed]	Wheat Flour Retailer, Jabe Market, Bujumbura
Murekambanze	Berehman	Burundian Airport Management Society (SOBUGEA)	Operations Director
Nahayo	Pierre Claver	Confederation of Agricultural Producers Associations for Development (CAPAD)	Head, Tubers and Market Gardening
Nahimana	Remy	World Food Programme	Logistics Officer
Nahimana	Charles	Union for Cooperation and Development, Ngozi (UCODE asbi Ngozi)	Director
Nakobedetse	Damien	Burundian Bureau of Standards and Quality Control	Director
Ndamama	Natacha	Arnolac Cargo Shipping	Director
Ndayisenga	Gerard	World Food Programme	Senior Logistics Assistant
Ndayishimiye	Jean Marie	Confederation of Agricultural Producers Associations for Development (CAPAD)	Technical Coordinator
Ndihokubwayo	Darine	World Vision Burundi	Supply Chain & Administration Manager
Ndikumagenge	Pierre	International Fund for Agricultural Development	Senior Technical Staff, Livestock Sector Rehabilitation Support (PARSE) Project
Ndikumagenge	Joseph	[None - Self Employed]	Wheat Grain and Flour Retailer, Jabe Market, Bujumbura
Ndikumana	Gérard	[Company Name Unknown]	Managing Director, Transport and Wholesale
Ndikumasabo	Alain	Rafina, S.A.	General Director
Ndongezi	Stève	Polyservices	Director
Ndorere	Pierre Claver	Dettra Logistics	Custom Agent
Ndoricimpa	Jean-Bosco	STDTR	Manager
Ndumbi	Dr Basile	International Medical Corporation	Country Director
Nduwimana	Anicet	Confederation of Agricultural Producers Associations for Development (CAPAD)	Program Director
Ngagijimana	Deogratias	Ministry of Agriculture and Animal Industry	Provincial Director
Ngarura	Nina	Japan International Cooperation Agency	Assistant
Nimubona	Salvator	Agro-Pastoral Productivity and Market Development Project	National Coordinator
Nininahazwe	Immaculée	Farisana	Business Manager
Niyongabo	Rafael	Caritas	Logistics Officer
Nkengurutse	Christian	Federal Chamber of Commerce & Industry of Burundi	General Secretary

Last Name	First Name	Organization	Title
Nkuranga	Louis	World Food Programme	Officer in Charge of Logistics
Nkurunziza	Noël	Burundian Association of Consumers	President
Ntibakivayo	Pierre-Claver	Ministry of Agriculture and Livestock	Technical Advisor, Coordinator of National Agricultural Investment Plan
Ntirampeba	Protais	Ministry of Health and HIV Control	Director Health Promotion, Hygiene and Sanitation
Ntirampeba	Dancilla	Ministry of Health	Health Promotion Technician, Bureau Provincial Santé, Ruyigi
Nzeyimana	Terence	Ministry of Commerce	Acting Director General
Nzigamasabo	Gaspard	Rural Development Community (CDR)	President
Nzitunga	Isaac	Ministry of Agriculture and Animal Industry	Ministry Advisor, National Agricultural Investment Program
Posey	Darren	Catholic Relief Services	Country Representative
Rufyikiri	Herménégilde	Ministry of Agriculture and Livestock	Coordinator
Rufyikiri	Emmanuel	World Bank	Lead, Interprovincial Unit, Muyinga, PRODEMA Project,
Rurema	Déo-Guide	Office of the Second Vice President	Deputy Head Chief of Cabinet (Coordinator of SUN)
Sasaki	Miwa	Japan International Cooperation Agency	Program Coordinator
Shonubi	Glen	Burundi Coffee Hulling (BUDECA)	Managing Director
Sindihebura	Damien	World Food Programme	Program Director
Stalla	Stanley	USAID/Burundi	Food for Peace Officer
Twisabire	Moise	Ministry of Finance	Agronomist, Gisuru, Kinyinya and Nyabitsinda Communes, Post Conflict Program for Rural Development (PPCDR) Project
Uwizeyimana	Patrick	Rural Development Community (CDR)	Agronomy Technician
Vossen	Paul	European Union Delegation in Burundi	Head of Infrastructure and Rural Development
Wanjohi	Bernard	MINOLACS	Technical Director
Yamuremye	Fabien	Ministry of National Solidarity, Human Rights, and Gender	Director
[No last name given]	Claude	World Food Programme	Country Program Officer
[No last name given]	Pontien	Ministry of Health, Bureau Provincial Santé, Ruyigi	Focal Point Nutrition
[No last name given]	Sophia	Ministry of Health, Bureau Provincial Santé, Kayanza	Technician in Nutrition Service, Focal Point for FARN Approach

ANNEX 7

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Back cover: A child plays on his family's small plot of land, just off the highway in Kayanza Province. Kayanza, Burundi, August 2013.

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